

TECHNOLOGY DEPT.

Chilton's MOTOR AGE

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AUG 24 1953

DETROIT

AUGUST 1953



and Enjoy BEACH VIEW

... WHERE THERE'S ALWAYS A COOL BREEZE



In This Issue:

Counterfeit Parts Can Cost Plenty



Tough but oh so Gentle

IN REGULAR OR CHROME SETS

Count on Hastings for complete coverage—in regular or chrome sets for all passenger cars. Every Hastings Set is Motor Engineered for each make and type of engine, for each replacement condition, re-bore, re-ring or re-sleeve. And each set is built around the basic Steel-Vent oil control ring, the ring that's *tough* on oil-pumping, *gentle* on cylinder walls.



It's gentle because Steel-Vent's two wall-contacting steel sections have rounded edges which provide hair-line contact and reduce drag to a minimum.



It's gentle because the Steel-Vent spacer has extra wide vents that let oil flow through freely for extra cylinder wall lubrication.



It's gentle because Steel-Vent's flexible, low-tension innerspring works only against the steel sections—holds them on the wall with soft pressure.

Result: maximum life, minimum wear.

HASTINGS

Steel-Vent Piston Rings

Regular or Chrome-Faced

Motor Engineered for Replacement Service in Cars, Trucks, Buses and Tractors



GLOOM

"IF I HAD A WRENCH
THIS BIG I COULDN'T
LOOSEN THAT RUSTY NUT"

EDDIE, LOOK! YOU
DON'T NEED TOOLS
YOU NEED
SOLVO-RUST

SOLVO-WHO?

SOLVO-RUST
IT'S DYNAMITE TO RUST AND
CORROSION, WATCH WHAT
A FEW DROPS WILL DO

SEE THAT!
OFF IN A JIFFY

THAT'S THE STORY, FELLAS!

Solvo-Rust dissolves rust and corrosion *instantly*! It works like dynamite on seized parts. It saves time and spares your knuckles removing frozen muffler tail pipes, cylinder heads, king pins, valve guides, etc. And it sure silences noisy springs and shackles quick. Don't let rust or corrosion get you down. Use Solvo-Rust. Your jobber can supply it in pints or gallons. Ask him, or write to Permatex for jobber's name.

PERMATEX COMPANY, Inc., Brooklyn 35, N. Y.
OVER 50 CHEMICAL PRODUCTS FOR BETTER AUTOMOTIVE MAINTENANCE

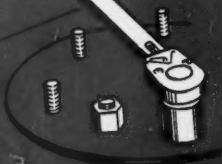




Fastest Torquer in the World!!

... the Amazing New **PROTO**
Torque-Limiting Wrench with
Automatic Release!

Use it in the dark, in noisy locations, in "blind" spots, in oil, with heavy-gloved hands — or even with feet! The automatic release reflex action tells you "when" without looking or listening—prevents over- or under-torquing.



Remember!

PROTO means
PROfessional
TOols

**AUTOMATIC
TORQUE-LIMITING
RELEASE—NO
DIALS, POINTERS
OR SOUND
INDICATORS**

**BUILT-IN
RATCHET HEAD—
ALSO PLAIN
HEAD**

**REVERSING
LEVER**

SQUARE DRIVE

SIX MODELS

5-75 and 10-150 Ft.-Lb. Capacities Cover Majority of Requirements— $\frac{3}{8}$ " or $\frac{1}{2}$ " Square Drive—Ratchet or Plain Head.

**ACCURATE
MICROMETER-TYPE
ADJUSTMENT**

LOCK

**KNURLED
HANDLE**

**ENCLOSED
PRECISION
SPRING**

**COMPACT—
STREAMLINED—
NO PROJECTING
SCALES OR
OTHER
GADGETS**

**ALL-STEEL TROUBLE-FREE
CONSTRUCTION**

Vastly superior to old-fashioned indicating types, the new PROTO torque-limiting wrench offers many advantages: • **SUPER-FAST**—Pull to final torque without hesitation. • **ACCURATE**—Eliminates human errors that occur with indicating types. Remains accurate permanently. • **BETTER WORK**—Uniform torquing prevents rejects and complaints. • **EASY TO USE**—Absence of clumsy accessories reduces weight. • **VERSATILE**—Performs anywhere. Ratchet-head models do the work of two tools. • **RUGGED**—Durable, trouble-free construction. *Guaranteed.* • **INEXPENSIVE**—Lowest-priced precision torque-limiting wrench. See and buy this great new torquer at your nearest PROTO dealer. Send for free folder (enclose 10¢ for 68-page catalog of the complete PROTO line) to

PLOMB TOOL COMPANY

2226X Santa Fe Ave., Los Angeles 54, Calif.

PROTO TOOLS

REG. U.S. PAT. OFF.
MADE IN U.S.A.

LOS ANGELES

PROTO means
PROfessional
TOols

Eastern Factory—Jamestown, N.Y. Canadian Factory—London, Ont.

Chilton's MOTOR AGE

WITH WHICH IS COMBINED AUTOMOBILE TRADE JOURNAL

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For THE AUTOMOTIVE SERVICE INDUSTRY

LXXII, No. 9

August, 1953

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Farms + Main Street Towns =

COUNTRY-SIDE MARKET
America's biggest automotive market

More than half the people of America live in the Country-Side market—towns of less than 10,000 population, crossroads villages and on farms. *Here* more than half the nation's cars are bought and sold. *Here* most of the nation's service business is transacted. *Here* the majority of America's car dealers and independent repair shops are located.

Now you can reach and sell the *whole* Country-Side market, through the Country-Side Unit—FARM JOURNAL and Pathfinder, the TOWN JOURNAL. This new, powerful sales package reaches and influences more than 4,100,000 of the best Country-Side customers *with the impact of a local newspaper*. It is by far the biggest approach to America's biggest automotive market.



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THE COUNTRY-SIDE UNIT ...
 4,100,000 of the best automotive customers
 = in America's biggest automotive market
SELLS THE WHOLE
COUNTRY-SIDE MARKET

Chilton's MOTOR AGE, AUGUST, 1953

IT'S HERE!
Another Moog First!

MOOG 241 chrome PISTON RINGS



241—two-for-one—twice as many miles of wear—2 miles for every one before. Yes, Moog 241 is the chrome set-up that gives longer ring life—with 2 chrome faced steel segments—that *Will Seat—Won't Scuff*—inner spring rings that balance the piston; correctly meter the wall pressure and control oil.

Install the Moog 241 Chrome Piston Ring Set to insure top performance and eliminate costly comebacks in those tough jobs.

Moog Has Both—regular and chrome—the famous X-plus set and now the 241 Chrome—See your Moog distributor and move ahead with Moog!

MOOG INDUSTRIES, INC., ST. LOUIS 14, MO.

5 Great Automotive Leader Lines

COIL ACTION PARTS	
LEAF SPRINGS	CHASSIS PARTS
COIL SPRINGS	PISTON RINGS



Now a Chrome Set that—

**WILL
 SEAT—**



**WON'T
 SCUFF**

EXCHANGE

**...the rods on
every overhaul**

With their high speeds and heavy loads, today's engines demand more precise bearing installation than ever before. One extra, *invisible* thousandth of out-of-roundness in a connecting rod can ruin the whole overhaul. *Don't take a chance!* Turn in the rods on Federal-Mogul exchange insert rods—be sure of your work on every overhaul!

**You can
depend on
the Service
from your
Federal-Mogul
Jobber...**



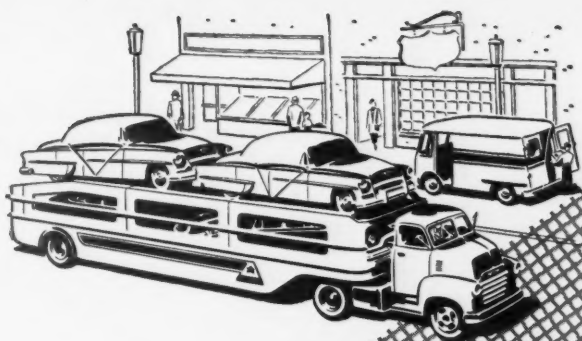
FEDERAL-MOGUL SERVICE

(Division of Federal-Mogul Corporation)

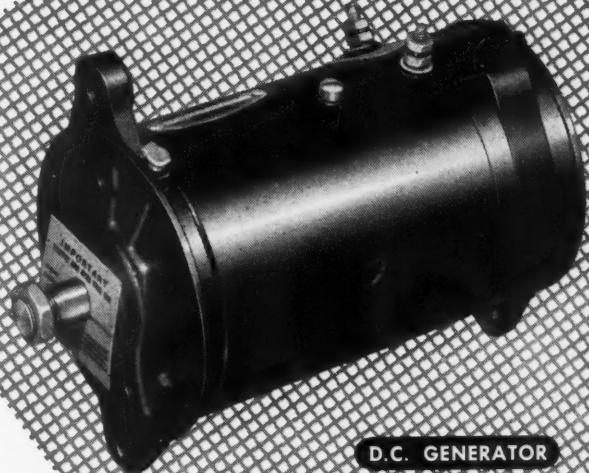
DETROIT 13, MICHIGAN

Engine Bearings (Main, Connecting Rod and Camshaft) • Bushings • Connecting Rod Service—Exchange Insert Rods, Rebabbitted Rods • Connecting Rod Bolts and Nuts • V-Seam Piston Pin Bushings • Shims and Shim Stock

Delco-Remy Universal Generators



**SERVE A BIG MARKET
WITH A SMALL STOCK
OF THESE
ORIGINAL-EQUIPMENT
QUALITY UNITS**



D.C. GENERATOR

Millions of cars—hundreds of models of many different makes—are equipped with Delco-Remy electrical systems. To permit you to serve this great market with a small inventory, Delco-Remy has designed a special series of "universal" generators. Each of these models serves many original equipment applications—all are built to original equipment standards of quality . . . they're *right for the job!*

These universal generators maintain the original balance in Delco-Remy electrical systems . . . prolong the life of other electrical units and hold original performance levels. Delco-Remy universal generators are available everywhere. See your nearest United Motors wholesaler for further information.

A GENERAL MOTORS PRODUCT  A UNITED MOTORS LINE
DISTRIBUTED BY WHOLESALERS EVERYWHERE

DELCO-REMY

Division, General Motors Corporation
Anderson, Indiana

WHEREVER WHEELS TURN OR PROPELLERS SPIN



1 Auto-Lite Neosheath Spark Plug Wire

New Neosheath Spark Plug Wire sets stop "flash-overs" or "short-out" due to moisture on spark plugs. Easily installed, tailored sets require no cutting or fitting and only 4 universal Neosheath sets provide complete coverage for most popular cars.



2 Auto-Lite Powerline Battery Cable

Famous Auto-Lite Battery Cable offers anti-corrode Power Line Terminals made of pressure-cast alloy to resist corrosion. Power Line Terminals are specially designed with "thimble-shaped" bumper blocks to fit right and hold tight . . . help you give customers greater performance.



3 Auto-Lite Flextrand Primary Wire

Auto-Lite silver-sheathed "Flextrand" primary wire is highly resistant to attacks of heat and oil. Higher number of strands offer greater flexibility for easy installation, greater strength for longer service life, and greater resistance to vibration for reduced failures.



Tune in "SUSPENSE!" . . . CBS Television Tuesdays

Out in front with Proven Sales Leaders

**Original factory equipment on millions
of America's finest cars, trucks and tractors**

★ *For more profit!* ★ *For repeat sales!*
★ *For customer satisfaction!*

IT WILL PAY you to check the Auto-Lite Wire and Cable line . . . the complete line with proven sales leaders like new Neosheath Spark Plug Wire, Flextrand Primary Wire and Power Line Battery Cable with the new Power Line Terminal that holds tight. All three

of these outstanding leaders are original factory equipment on millions of America's finest cars, trucks and tractors. Cash in on this huge ready-made market for bigger profits. Sign up with Auto-Lite today . . . the best-advertised name in the automotive after-market.

THE ELECTRIC AUTO-LITE COMPANY

Toledo 1, Ohio

Spark Plug Division

Toronto, Ontario



Order from your Auto-Lite jobber today!

AUTO-LITE

wire and cable

There is no substitute for the
 performance *Raybestos* PGT Sets
 give truck owners

Raybestos PGT Sets are not just passenger car brake linings made a little thicker and wider. They are specially engineered linings packaged in the right combinations for every make and model of light and medium truck. Along with Raybestos PG Sets for passenger cars, they enable you to offer every customer safer, surer stops and longer lining life. Raybestos quality is backed by exhaustive Proving Ground tests and solidly supported by 38 years of consistent advertising.



LINED BRAKE SHOES or BOXED SETS
 in the correct brake lining combinations for every make and
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 protection.

CONSISTENTLY ADVERTISED IN THE
POST AND Farm Journal

DON'T BUY INFERIOR BRAKE LINING. IT'S DANGEROUS!

Reline with
Raybestos[®] PG SETS
 AMERICA'S BIGGEST SELLING BRAKE LINING



RAYBESTOS DIVISION of Raybestos-Manhattan, Inc., Bridgeport, Conn.
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 Rubber Covered Equipment • Asbestos Textiles • Teflon Products • Packings • Sintered Metal Products • Abrasive and Diamond Wheels • Bowling Balls



1. Even the woman of the house expects a lot from the car that is paid for out of the family budget . . .



2. And if she's unhappy about the performance it gives, you'll wish she'd never crossed your path.



3. But if you want to keep her happy as a lark . . .



4. Stand right up and tell her to use "Ethyl" gasoline and get all the power the family paid for. (Of course, the timing should be set for "Ethyl" gasoline.)



© 1953 Ethyl Corp., New York 17, N. Y.

Chilton's MOTOR AGE, August, 1953

New Westinghouse

Free promotion kit brings in business and identifies you as **SAFETY CHECK HEADQUARTERS**



HERE'S WHAT IT CONTAINS . . .



Colorful 30" x 13" transparent streamer



Auto Bulb Guide Chart—shows proper replacement bulb for all makes and models of cars, including 1953 models.

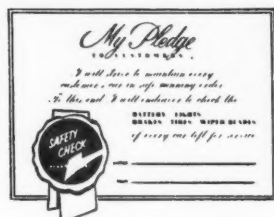
Plus...

Order Form
You Use To Get:



8" Safety Check Emblem
(choice of decal or paper sticker)

Snap-on Check List Tag—dealers leave on steering wheel or dashboard of serviced car. Tells owners that a Safety Check has been made.



Safety Pledge Certificate
suitable for framing.



11" x 14" counter
or window card



Newspaper Ad Mats



Series of four Direct Mail cards
with or without dealer imprint.



Safety Check car door
stickers—dealers write
date on sticker and
place on door frame
as record of Safety
Check.

Campaign Sells YOU AS SAFETY CHECK HEADQUARTERS

In every town, your town, people will come to know this new SAFETY CHECK emblem. They'll go to the dealer that displays it because they'll want Safety Check service.

The emblem pledges you to endeavor to check windshield wipers, battery, all lights, tires and brakes on every car left for service. Checks you now do as a courtesy. This new campaign sells you as Safety Check Headquarters. Tie-in and profit.

You will also obtain a Poncho in every display kit when you pay 60¢ for the kit. Made of durable plastic in a bright yellow, with the Safety Check Emblem on the back, it will last a long, long time.

... and Betty Furness on "Westinghouse STUDIO ONE", seen over 57 CBS-TV stations, will tell motorists to look for your Safety Check emblem. ... also tune in on Westinghouse Pro Football, starting October 3rd.



**MAIL THIS COUPON TODAY
FOR YOUR FREE DISPLAY KIT**

Westinghouse Lamp Division, Dept. MA-8
Bloomfield, New Jersey

Without cost or obligation please send me the FREE
Safety Check display kit.

NAME.....

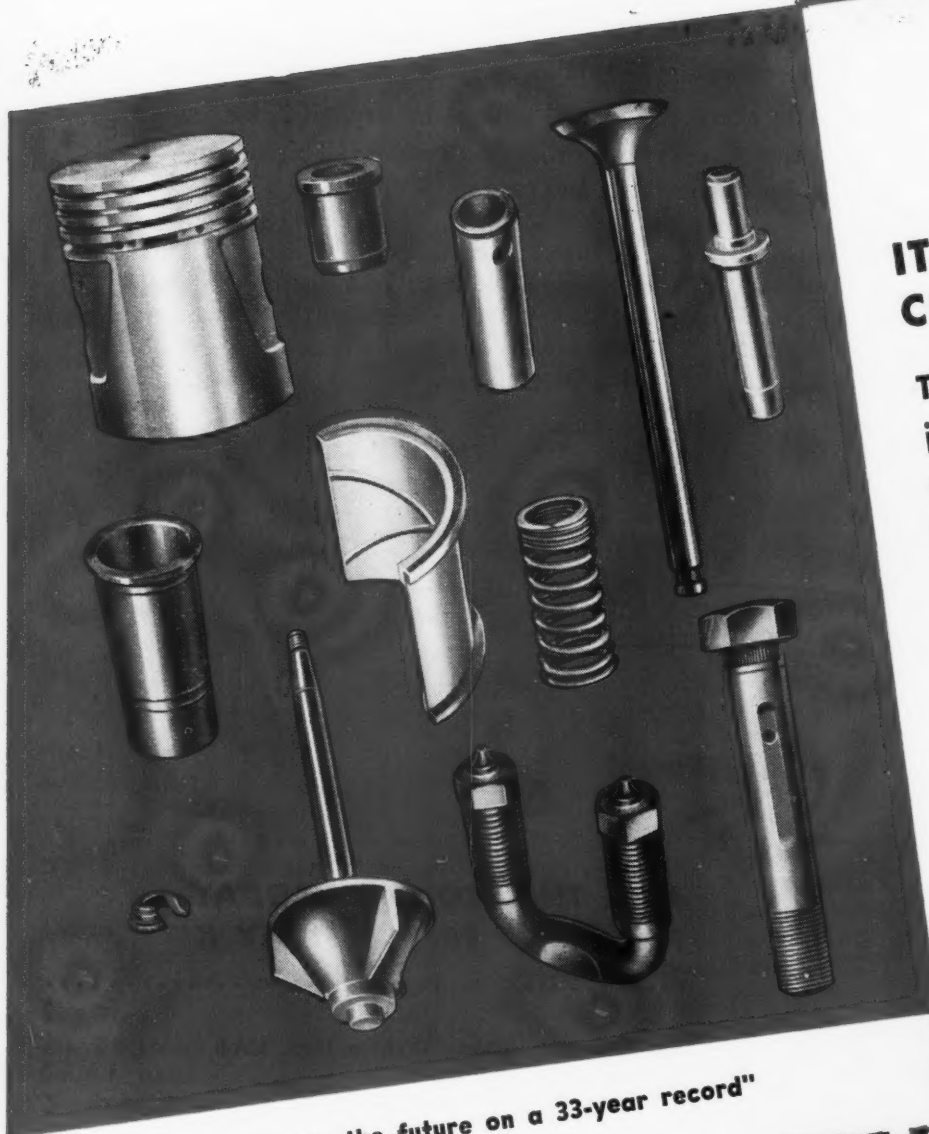
ADDRESS.....

CITY.....ZONE.....STATE.....

☐ Please send Display Kits with Ponchos at 60¢ each.
Enclosed find ☐ Check or ☐ money order to cover cost of
kit with Ponchos.

**YOU CAN BE SURE...IF IT'S
Westinghouse**

**You can bank
on the KING LINE
for more money**



**IT'S THE
COMPLETE LINE**

The KING QUALITY
jobber offers you
one-trip service, plus
the finest parts in the
business — parts priced
for profit. See him
for what you need.

"Building for the future on a 33-year record"

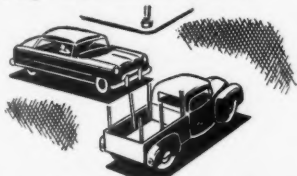
KING QUALITY
SAINT LOUIS 10, MISSOURI



PISTONS • PINS • VALVES
BEARINGS • WATER PUMP PARTS
BOLTS • BUSHINGS
SLANT-U SHACKLES • SLIDES
WHEEL SUSPENSION PARTS

Sell the SAFETY that only Grey-Rock Balance provides!

SAFE, SURE STOPS



Even in the same brake, different shoes do different work. It takes a balanced combination of different brake linings to equalize wear and to provide sure, safe stops for many thousands of miles. Balance is not just a matter of high and low friction linings; it is the result of using many different linings in combinations properly engineered for each make and model. This *balance* principle, pioneered by Grey-Rock more than 20 years ago, reduces adjustments and come-backs . . . assures a better profit on each job.

BACKED BY A POWERFUL MERCHANDISING PROGRAM



To keep more and more customers coming to your shop for brake service, Grey-Rock gives you a complete program of merchandising aids and sales helps—from post cards and newspaper mats to shop posters and mechanics' caps. This entire program, too, ties in with Grey-Rock's consistent, colorful national advertising.

THIS TAG MARKS A BETTER BRAKE JOB



Packed in every Grey-Rock Balanced Brakset, this tag is ready for you to snap on a dash button of your customer's car. It tells how your workmanship joins with Grey-Rock *balance* to deliver a better, safer brake job!

DISTINCTIVE WOVEN-MOLDED COMBINATIONS

Balanced Braksets for passenger cars

Balanced Trucksets for light trucks

Grey-Rock combines special woven linings with molded linings to meet the particularly severe brake requirements of certain makes and models. These woven-molded combinations provide brake action *far better* than can be achieved with molded linings alone. This is a distinctive Grey-Rock feature!

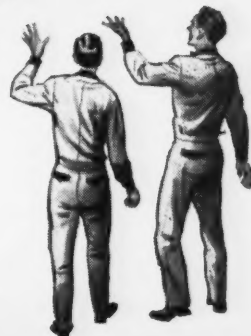


For riveting or bonding—every piece factory branded for your protection.

Consistently advertised in

POST and *Country Gentleman*

See your Grey-Rock jobber for
FACTORY-BONDED SHOE EXCHANGE



Only **Grey-Rock** makes

BALANCED BRAKSET LININGS

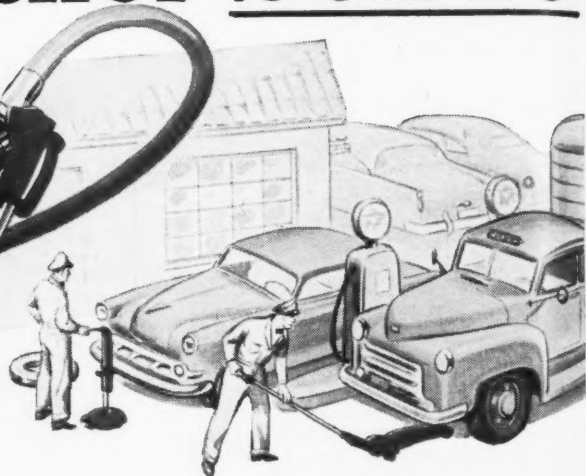
BALANCED BRAKSETS • TRUCKSETS • BRAKE BLOCKS • VIB-RAP • CLUTCH FACINGS



GREY-ROCK DIVISION of Raybestos-Manhattan, Inc., MANHEIM, PA.
RAYBESTOS-MANHATTAN, INC., Manufacturers of Brake Linings • Brake Blocks • Clutch Facings
Fan Belts • Radiator Hose • Industrial Rubber Products • Rubber Covered Equipment • Asbestos Textiles
Teflon Products • Packings • Sintered Metal Products • Abrasive and Diamond Wheels • Bowling Balls



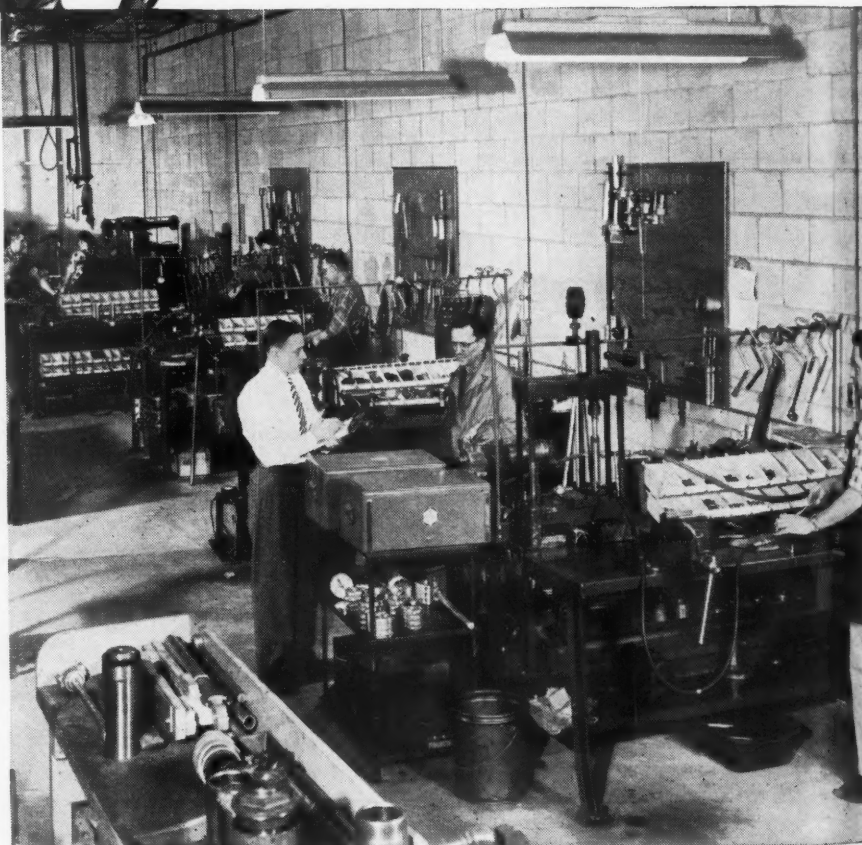
Great jack another *bonus*



REPAIR STATIONS LIKE THIS are typical of the many independently-owned service centers for Blackhawk equipment. Manned by Blackhawk-trained experts, they're organized to make first-class repairs on a broad range of hydraulic equipment. Pilot model for this factory-authorized network is a factory-owned station in Milwaukee.

BLACKHAWK AUTHORIZED REPAIR STATIONS

ARIZONA	
PHOENIX.....	Motor Supply Company
CALIFORNIA	
FRESNO.....	Kimmerle Brothers
LOS ANGELES.....	Kimmerle Brothers
SACRAMENTO.....	Henderson Brothers
SAN FRANCISCO.....	Kimmerle Brothers
COLORADO	
DENVER.....	Quinn & McGill Auto Motor Supply Co.
FLORIDA	
JACKSONVILLE.....	Tingen Hydraulic Service
GEORGIA	
ATLANTA.....	Equipment Service Company
ILLINOIS	
CHICAGO.....	Illinois Auto Electric Co.
INDIANA	
INDIANAPOLIS.....	The White-Evans Elevator Company
KANSAS	
WICHITA.....	Wichita Hydraulic Service
KENTUCKY	
LOUISVILLE.....	Queen Products Company, Inc.
LOUISIANA	
NEW ORLEANS.....	Beerman Precision Machine Works
MARYLAND	
BALTIMORE.....	Holdridge Engineering Company
MASSACHUSETTS	
WATERTOWN.....	New England Hydraulic Service Co.
MICHIGAN	
DETROIT.....	Hydraulic Service, Inc.
GRAND RAPIDS.....	Hydraulic Service, Inc.
MINNESOTA	
MINNEAPOLIS.....	Hydraulic Jack & Equipment Service
MISSOURI	
KANSAS CITY.....	Hydraulic Service Company
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OKLAHOMA	
OKLAHOMA CITY.....	Hydraulic Equipment Company
TULSA.....	Mac's Hydraulic Jack Service
OREGON	
PORTLAND.....	Equipment Service Company
PENNSYLVANIA	
PHILADELPHIA.....	Equipment Service Company
PHILADELPHIA.....	Fred Ganther, Official Jack Service
PITTSBURGH.....	J & M Hydraulic Service
TENNESSEE	
MEMPHIS.....	Beller Wheel Brake & Supply Co.

TEXAS	
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SALT LAKE CITY.....	Wilson's Transport Supply
VIRGINIA	
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WASHINGTON	
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CANADA	
VANCOUVER, B. C.....	Hydraulic Service & Equip. Co.
WINNIPEG, MANITOBA.....	Keystone Safety Clinic
TORONTO, ONTARIO.....	Thexton Machine Works

service like this... is benefit from Blackhawk

Convenient authorized Blackhawk service stations back all repairs with full factory guarantees

Yes, when it comes to taking punishment, you just can't beat Blackhawks. These jacks stand up year after year, under loads other jacks can't take. Yet, like all good equipment, they occasionally need repair and service.

Blackhawk's realistic answer to protecting your original jack investment is to give you (1) top value at the time of purchase, and (2) the *bonus backing* of

convenient authorized repair service that guarantees "like new" performance. This is in addition to Blackhawk's huge network of selected Automotive Equipment Wholesalers and Industrial Supply Distributors who also stock replacement and first-aid parts.

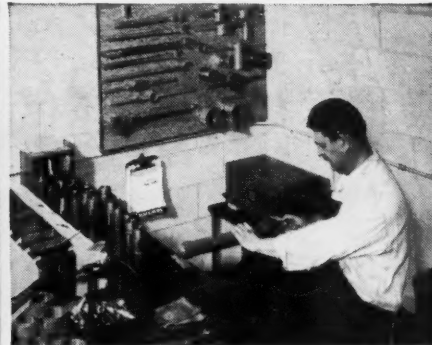
With proven superior performance on the job and modern testing and refinishing facilities like this, no wonder Blackhawk is the first choice of hydraulic jack buyers. You not only start with a low-cost investment . . . with more money-making features, but you're assured longer equipment life as well. And that goes for "Porto-Power" and *all* the jacks in the complete Blackhawk line. So when you buy, get the best — with the greatest service backing — buy Blackhawk!



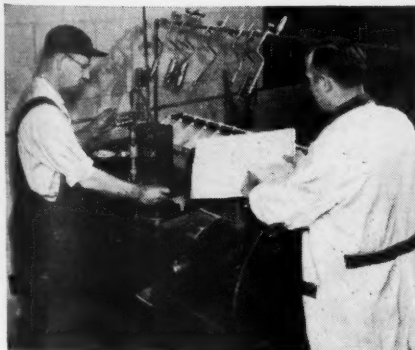
STRATEGIC LOCATIONS — Blackhawk has analyzed hydraulic jack population and established repair stations accordingly. To users of Blackhawk equipment this means faster, more convenient service . . . with *lower transportation costs!* More proof that . . . your best buy is Blackhawk!



LOOKS LIKE NEW . . . WORKS LIKE NEW — In sparkling Blackhawk red, with decals and name plates in place, this equipment invites usage! *Every Blackhawk product repaired by an authorized Blackhawk service station carries the regular factory guarantee.*



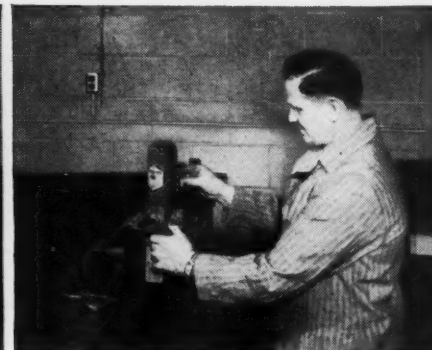
FACTORY-APPROVED LABOR CHARGES — Reconditioning equipment to "like new" condition is done without delay. Special tools and experience enables mechanics to quickly analyze troubles and make repairs on a flat-rate basis . . . your assurance of top-grade, lowest cost services!



FACTORY SUPERVISION MEANS QUALITY CONTROL — Repair methods and tests are supervised by traveling Blackhawk engineers to guarantee and maintain quality to factory standards. Service personnel are completely checked out on latest procedures on the broad range of hydraulic equipment, including famous "Porto-Power."



UNIT TRADE-IN PROGRAM — Here mechanic demonstrates simple replacement of hydraulic power unit on S-4 jack. Owners can install a new unit in 20 minutes or less. Liberal trade-in allowance for old unit. Assemblies are available from country-wide stocks. No other line gives you this replacement feature.



FAST SERVICE FROM COMPLETE STOCKS — Proper design simplifies service on individual parts and assemblies as in hand jack pump replacement. Parts are always available from warehouse stocks, at authorized stations. A long-range policy assures replacement parts for at least 10 years after a model is discontinued.

BLACKHAWK®

"PORTO-POWER" • HYDRAULIC JACKS • HAND TOOLS

Products and services
of Blackhawk Mfg. Co.
Dept. J-683
Milwaukee 1, Wisconsin



Plan for Profits with world-famous GENERAL MOTORS Parts and Accessories

DELCO BATTERIES

Sackard CABLE

INLITE BRAKE LININGS

MORAINÉ ENGINE BEARINGS

ROCHESTER CARBURETORS

HARRISON THERMOSTATS

DELCO AUTOMOTIVE MOTORS • CLOCKS

Saginaw JACKS

NEW DEPARTURE BALL BEARINGS

Delco-Remy STARTING • LIGHTING
IGNITION

HYATT ROLLER BEARINGS

KLAXON HORNS

ROCHESTER CIGAR LIGHTERS

HARRISON RADIATORS

DELCO SHOCK ABSORBERS

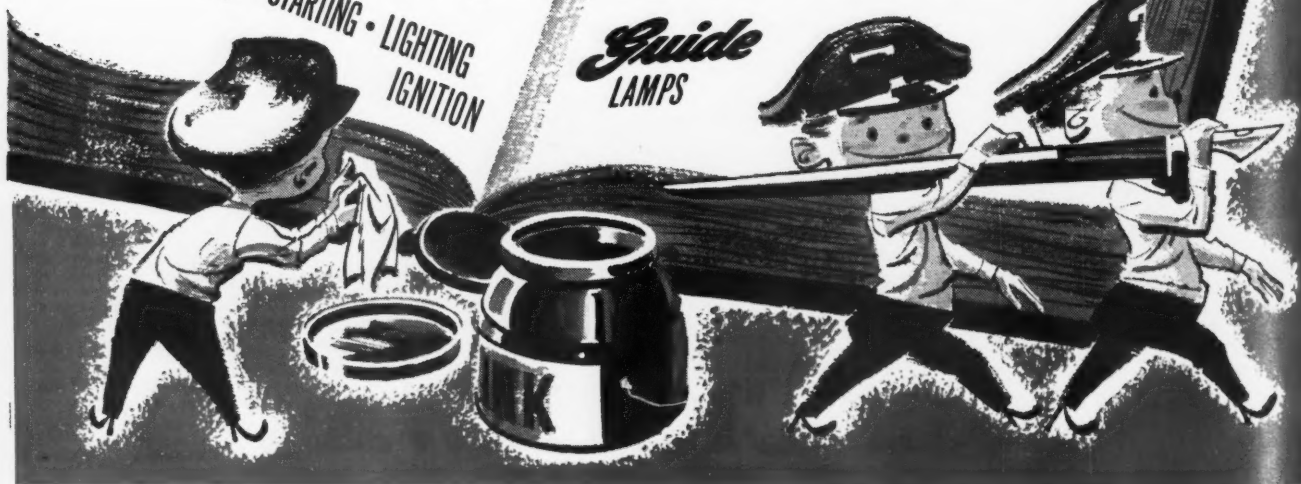
AC GAUGES • SPEEDOMETERS

DELCO ELECTRONIC PARTS

MORAINÉ GASOLINE FILTERS

DELCO BRAKE PARTS • FLUID

Guide
LAMPS





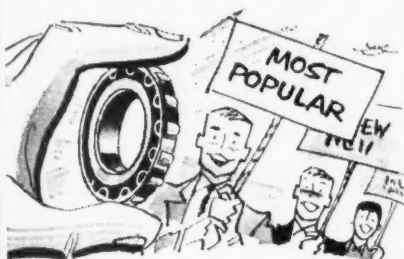
EXCLUSIVE! SPECIAL BRAKE FLUID DISPENSER



United Motors is making a special offer of a plastic dispenser for brake fluid. This new dispenser is easier to use and keeps the fluid clean and ready for use. A common error is to use one container for many purposes with the result that foreign matter enters the brake line and deteriorates the rubber parts. The rubber cup shown above (extreme left)

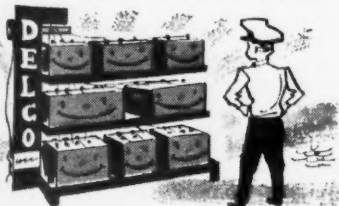
is an example of the damage done by one drop of oil in the brake line. Note how the cup has swollen in relation to the brass washer at its base. Just rinsing a brake fluid can with gasoline may cause this amount of damage—which demonstrates the importance of getting the Delco Brake Fluid Dispenser.

HYATT SPHERANGULAR BEARINGS GAIN IN POPULARITY



The unique function of Hyatt Spherangular bearings has caused a marked increase in their use throughout the automotive industry. The curve of each roller in this bearing is based on a small segment of the large circle. As the load increases, causing a minute depression of the roller, additional surface of the cups, cones and rollers comes in contact, automatically increasing the load capacity of the bearing. Hyatt Spherangular bearings take both radial and thrust loads, and are self-aligning, thus conform to any deflections that may develop under extreme loads.

BATTERIES KEPT FULLY CHARGED AT ALL TIMES



The Delco Trikl-Charg units are precision instruments designed to maintain 6- and 12-volt batteries at full power automatically. Available in four-, six-, and twelve-battery units. Mounts on Delco's new all-metal display stands and keeps batteries fully charged for instant use.

HERE'S A HOT TIP FROM ROCHESTER



It's Rochester Products' display card holding 12 replacement elements for Rochester cigarette lighters. The element, Part No. 7002286, is the most likely part of the lighter to need replacing, which can be done easily and quickly. The Rochester lighter is standard equipment on 1950 through 1953 Buicks and '51 through '53 Chevrolets and Oldsmobiles.

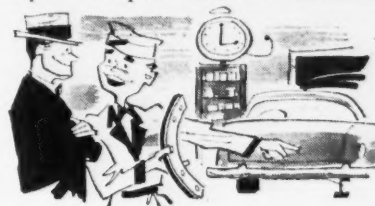
NEW DEPARTURE PUTS A "FUN-HOUSE" GAG TO WORK AT PLANT

Our first choice under the heading of "Jobs We'd Like to Have" is that of the air jet operator at the New Departure ball bearing plant. It seems that some precision instrument bearings are so delicate that even a tiny speck of lint or dust could throw them off. To combat this, New Departure manufactures these bearings in a special air-conditioned room and requires the female employees to wear nylon uniforms. As a further measure of precaution, these charming ladies get a short blast of compressed air to remove all lint.



DELCO LINED BRAKE SHOES SAVE MECHANICS' TIME

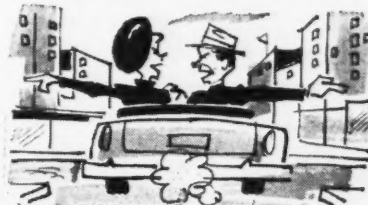
Factory lined brake shoes, available for all Chevrolet passenger cars and 1/2-ton trucks, save much in time and give new-car brake performance. Three sets service all models. Using these sets assures you of perfect brakes, as relined shoes often are warped and give trouble. The Delco Brake sets are lined with Inlite brake linings—the same as used originally—cut repair time to a minimum.



"TAKE IT OFF!" is the title of a colorful and interesting movie prepared by United Motors to explain the necessity of quality brake fluid and how it pays to "Take It Off."

A filter produced by Moraine Products Division of General Motors, although all metal, will separate water from gasoline!

GUIDE TO SAFETY FIRST!



In an endeavor to reduce accident rates, many states are now demanding use of direction signals on all vehicles—others are considering legislation to this effect. It is predicted that in the not too distant future direction signals will be required in all states. This is a safety measure that benefits all and should receive the support of every conscientious driver. Working with state legislative bodies and safety councils, Guide Lamp has designed turn indicators to comply with all existing laws and through national distribution is in a position to extend quick and convenient service when the need arises.

STAND OUT! In tune with the times, United Motors offers four new and modernistic all-metal Delco battery display stands. The handsome design and bright colors are a cinch to attract customer attention.



**PACKARD CABLE
PERFECTS NEW INSULATION**



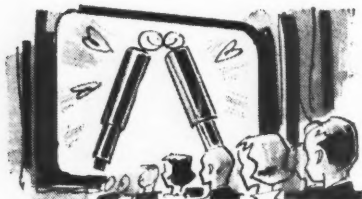
A new type plastic insulation for use on low tension cable and designated as "249" is being produced by Packard Cable. "249" insulation offers greater dielectric strength and will not support combustion. Also of great interest to the trade is its increased resistance to oil, chemicals, abrasion and extreme temperatures. "249" insulation is used on all Packard low tension and lighting cable.

• • •

TALK ABOUT TRAFFIC! It's estimated that 60 million Americans use motor vehicles to get to and from work or school every day, and that traffic bottlenecks cause the average driver to lose 10 minutes on each trip. This means a total daily time loss of 20 million hours!

• • •

**DELCO SHOCKS
STAR IN FEATURE FILM**



A new sound slide film entitled "4 Steps 4 Profit" is presented by United Motors for the enlightenment of all servicemen. The star role is played by a Delco shock absorber. As the plot unfolds we are made aware of the many sales opportunities available in the servicing of shock absorbers. Like all good stories this one too has a happy ending. Don't miss it! Your United Motors distributor can arrange a showing.

• • •

THE "ENGINEERED RIDE CONTROL" theme, exclusive in Delco shock absorbers, is featured on the display stand that United Motors offers service outlets. With the stand are included an attractive counter display card, application wall chart, window streamer and merchandising car application bulletin.

**ONE CARBURETOR REPAIR KIT
SERVICES ALL CHEVROLETS**

To replace many kits and part numbers Rochester Products now is putting out one complete repair kit for all Chevrolet carburetors. This not only will save time in ordering and stocking, but also will eliminate the possibility of buying the wrong kit for a job. Individual gasket kits are available for specific models. The part number of the new Rochester kit is 7004363. It services all Chevrolet passenger cars from 1932 through 1953 using Rochester carburetors.



**TOURIST SEASON SPARKS
SAGINAW JACK SALES**



An increase in Saginaw Jack sales has been noted with the arrival of warm weather. When tourists prepare to tour they want to be sure they are ready to meet all emergencies—and a good jack is one thing they can't do without when stranded with a flat tire. Conscientious servicemen will recommend this precautionary item to vacationing customers.

**NEW INSULATOR FOR
DELCO-REMY REGULATORS**

In early production of 1118300 and 1118700 type regulators the contact attaching screws were insulated from the contacts and brackets by two 1878507 insulators and two 1878506 bushings. Later the design was changed to use a moulded insulator with extrusions which served as bushings. The new moulded insulator is Part No. 1922599. It may also be used to replace 1878506 bushing and insulator in the 1118200 type regulators. Due to the fact that the old insulator and bushing are used in other locations, the old part numbers have not been superseded.

• • •

In testing carburetors, Rochester Products uses enough fuel in a year to make four theoretical round trips to the moon by automobile!

HARRISON designed their new thermostat dispenser (No. 153) with functional value, compactness and eye-appeal in mind. It's adaptable for either wall or counter use and holds 22 thermostats that cover 90% of all car applications. It also includes an up-to-date application chart and catalog for convenience.

• • •

**DEMINERALIZER PURIFIES
TAP WATER INSTANTLY!**



United Motors announces a unique Delco battery demineralizer that purifies tap water for battery use in a matter of seconds. It consists of a handy quart-size plastic bottle with a replaceable resin filter affixed at the top. When the bottle is filled with tap water, the filter attached, and tilted downward and squeezed, chemically pure water is dispensed directly into the battery. The demineralizer not only saves the serviceman time and trouble, but proves most impressive to customers. It is available through United Motors Delco Battery distributors.

**REGULATOR POINTS NEED
REGULAR ATTENTION**



Every time the vibrating points of a generator regulator separate, an arc is formed causing the transfer and oxidation of point material. This necessitates a regular check of points to assure peak engine performance. As a preventive measure all Delco-Remy regulators use tungsten on the negative contact point as tungsten tends to transfer less than any other material. The positive contact point on the hot side of the circuit is made of platinum or palladium which tend to oxidize less than any other known metal. Even with these precautions it is necessary occasionally to clean regulator contacts.



It's easy to get started with the United Motors Lines

—supported by a dynamic advertising program



This four-color ad will appear in
SAT. EVE. POST AUG. 8
LIFE AUG. 31



This two-color ad will appear in
SAT. EVE. POST JULY 11
COLLIER'S JULY 25

This two-color ad will appear in
LIFE AUG. 10



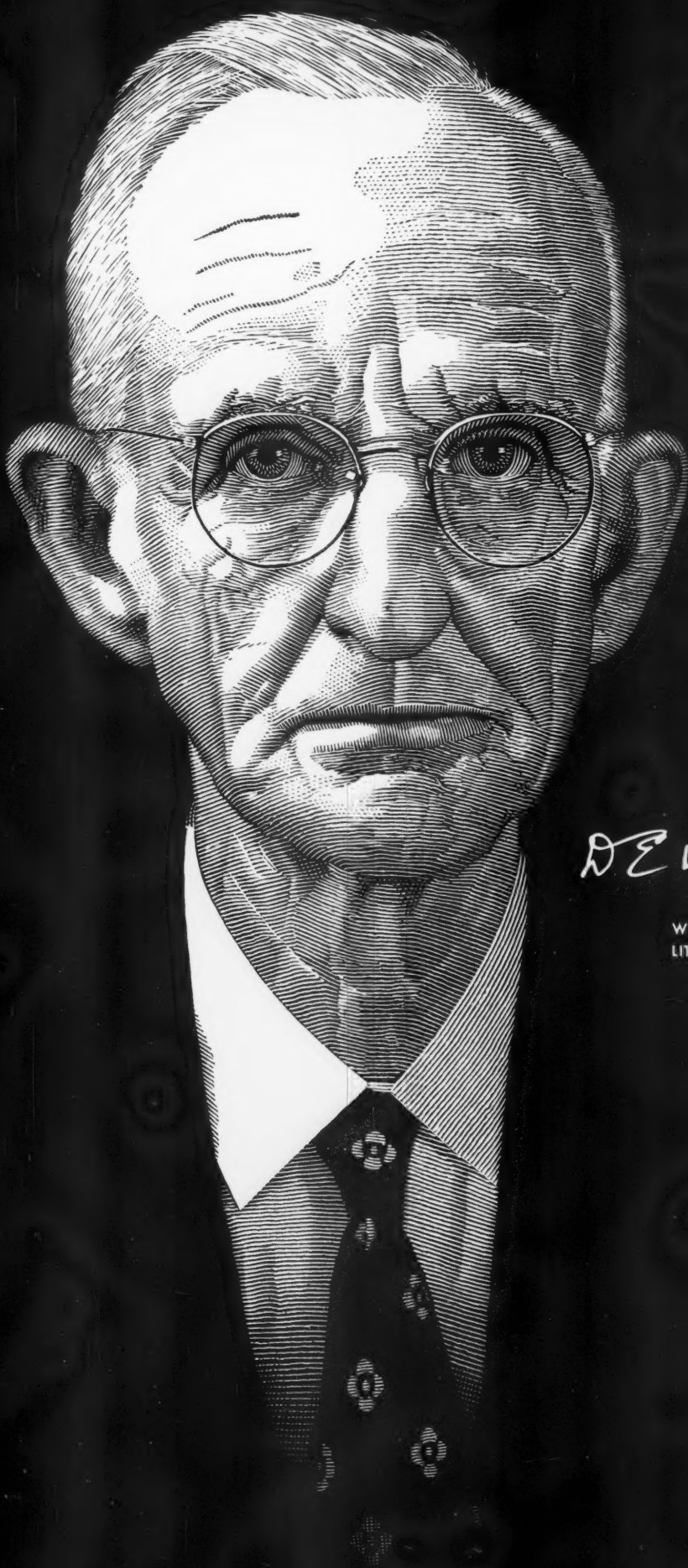
This four-color ad will appear in
COUNTRY GENTLEMAN for AUG.



DEALERS: It's a simple matter to get started with United Motors lines. Not only are the parts and accessories you sell backed by the strongest advertising campaign of its kind—but you're featuring the greatest names in the automotive replacement parts business . . . names that have earned the respect of millions of consumers through years of dependable performance.

Get started now with these best-known, most-wanted lines that mean greater profits for you. No matter where you are, there's a United Motors distributor near you—contact him today!





D.E. Winchester

PRESIDENT
WINCHESTER AUTO STORES, INC.
LITTLE ROCK—PINE BLUFF, ARK.

"TALK about extra profit and you talk about the Auto-Lite 'Sta-ful' Battery," says D. E. Winchester.

"We know that careful planning by Auto-Lite has made this possible. National radio and television advertising, strong national magazine and farm paper ads plus the fast-growing 'Oper-

ator 25' service back up the dealer in helping sell Auto-Lite to his customers.

"Of course, the original equipment replacement market that only Auto-Lite offers is another extra. This type of merchandising makes us refer to Auto-Lite as the extra special line with the extra special profits."

AUTO-LITE BATTERIES

WAYS RIGHT WITH AUTO-LITE



WALKER "PRECISION

THE

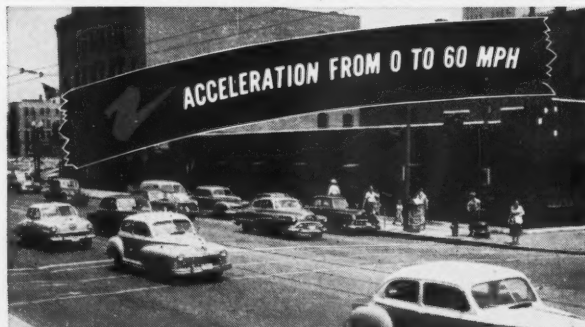


GO-FACTOR

means the ability of the car to get into quick motion



LOW-SPEED FLEXIBILITY



ACCELERATION FROM 0 TO 60 MPH



POWER RESERVES FOR GREATER SAFETY

Walker "Precision Tuned" Silencers are a Basic Part of the Modern Engine's "Breathing System" a Vital Influence in the Improved "GO-FACTOR"

In this new generation of engines, the most direct and practical route to the *improved* GO-FACTOR lies through *increased volumetric efficiency* . . . or the improved ability of the engine to breathe . . . to effectively utilize a greater charge or volume of air-fuel mixture and transform it into increased horsepower.

As a basic part of the engine's breathing system, proper exhaust system design exerts a vital influence on car performance . . . on its final horsepower rating . . . on its GO-FACTOR. No longer can yesterday's mufflers meet even the minimum requirements of these new standards.

And once again Walker sets the pace with "Precision Tuning" . . . a new generation of Walker Silencers to meet the new, complex problems of a new generation of engines.

Walker "Precision Tuned" Silencers are designed as an integral part of engine design . . . to quiet the heavier power notes of these new, more powerful engines without power loss . . . to specifically solve the new and difficult problems of shell noise . . . "transmission boom" . . . "tail pipe bark" . . . and still preserve the full measure of "traffic flash" and reserve power designed into every modern automobile.

Yes—Walker "Precision Tuned" Silencers bring out the "GO-FACTOR"!

WALKER MANUFACTURING COMPANY OF WIS. • RACINE, WISCONSIN

Exhaust Silencers . . . Oil Filters . . . Jacks



"PRECISION TUNED"
for the new generation of engines
and automobiles—now and to come

TUNING" BRINGS OUT

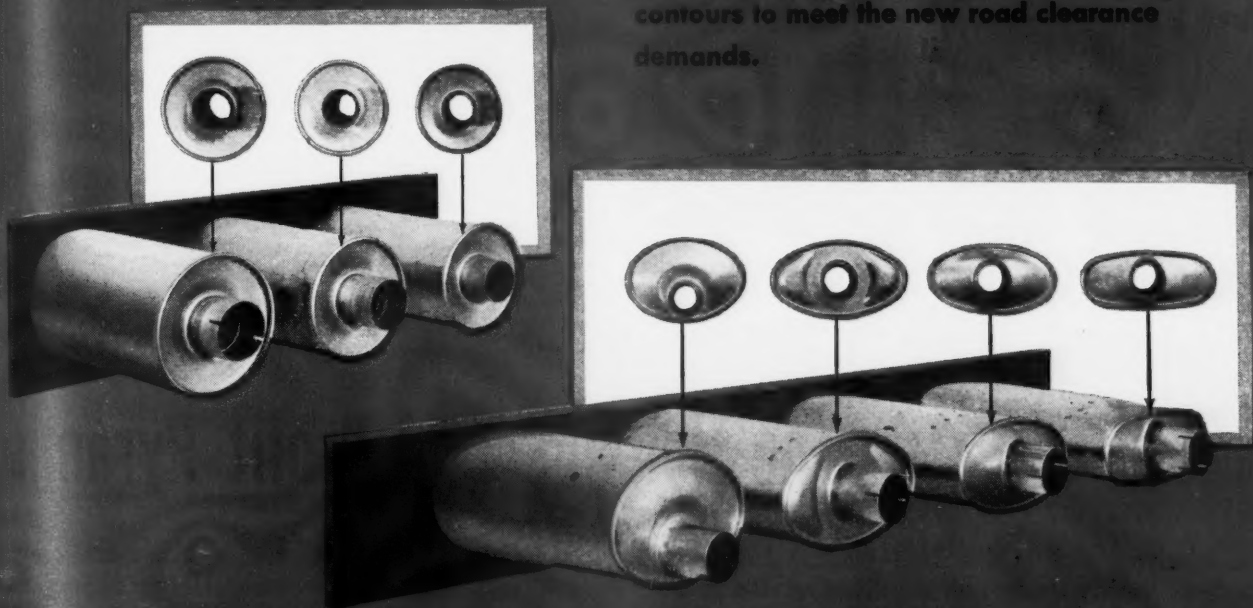
GO FACTOR



THE PROBLEM OF SPACE LIMITATION

Lower road clearances and new frame construction place increasingly difficult space limitations on muffler sizes. As the problem of quieting new high horse-power engines grows greater, the physical space in which to work continues to shrink.

WALKER "PRECISION TUNING" modifies and develops shell contours to meet the new road clearance demands.



NOW MORE THAN EVER

WALKER SILENCERS

MAKE THE DIFFERENCE!

"INDIVIDUALLY TUNED"

for the millions of fine cars, trucks
and buses still in active service





REAL DEAL! The Hollingshead Profit Pyramid!

You take your pick in this deal—you can have this wonderful cutlery set for only \$1.00, or you can pyramid your profits as high as 59%! You'll welcome other features of the deal, too, including:

1. Small investment needed to participate—as little as \$17.20!
2. Flexible choice of products—you select products that sell best for you.
3. Nine leading WHIZ products included—
MOTOR RYTHM (pts.) • KLEEN-FLUSH • ZORBIT
INSTANT SEALER • KLEAR-FLO • FORMULA III
VENUS POLISH • METAL SEAL • LUSTERIZE AUTO
BEAUTY KIT

Ask your jobber salesman for more news about the new Hollingshead deal on WHIZ products now in effect. Take your premium or your profits—do it now!

Bonus Deal 53-K. You select any 3-case combination of listed WHIZ products. Make your regular profit margin and get the stainless steel cutlery set for only \$1.00 extra!

Extra Profits Deal 53-R. Choose any 3-case combination of listed products and get a 1-dozen case of RUSTOP (radiator rust inhibitor and waterpump lube)—for only \$1.00 extra. Retail value \$12.00!

Super Profits Deal 53-S. Add 2 more cases to either 3-case deal above, and get *at no extra cost* a 1-dozen case of RUSTOP, retail value \$12.00!



R. M. Hollingshead CORPORATION

LEADER IN MAINTENANCE CHEMICALS

840 Cooper St., Camden 2, N. J. • Canadian Offices: Toronto
Warehouses: Atlanta, Chicago, Dallas, San Francisco

Switch to Exide...

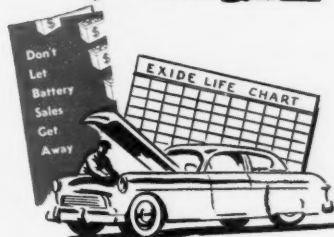
HERE'S WHY:

Easier to sell



because Exide batteries have a reputation for extra high performance... extra long life... *complete dependability*. Selling the Exide line is good business, a repeat business... a real money-maker.

They stay sold



because of the high quality raw materials that go into every Exide, with rigid inspection to assure top quality day in and day out.

Priced right



Exide batteries give dollar-savers and quality-seekers *more for their money*... and provide good profits for the dealer.

SWITCH TO EXIDE... because Exide has everything you need to build a bigger, more profitable battery business: the famous Ultra Start, leader of the complete Exide line... low-priced, high-quality 6 and 12 volt battery service equipment... point of sale identification... direct-mail material... telephone listings... national advertising... and many other sales boosters available to Exide dealers.

IT'S GOOD TO BE AN EXIDE DEALER.

See your Exide distributor today.

The now-famous **ULTRA START**,
leader of the Exide line.



THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 2

Exide Batteries of Canada, Limited, Toronto

"EXIDE" and "ULTRA START" Reg. T.M. U.S. Pat. Off.



Assure performance that satisfies!

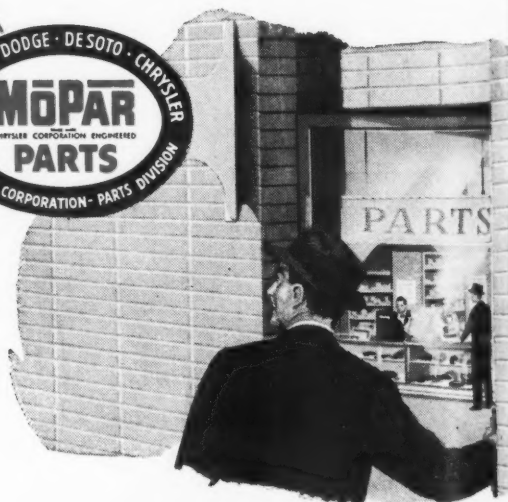
Be certain your service brings *thorough satisfaction*. Use only MoPar—*genuine Chrysler Corporation parts and accessories*.

They are engineered especially for Plymouth, Dodge, De Soto and Chrysler cars and Dodge "Job-Rated" trucks. Because they are *right* in every way, they save you time and trouble—and they assure lasting customer satisfaction.

Car owners in your community know about MoPar through powerful MoPar advertising in *The Saturday Evening Post* and other popular magazines. Profit now by serving this big "pre-sold" market!

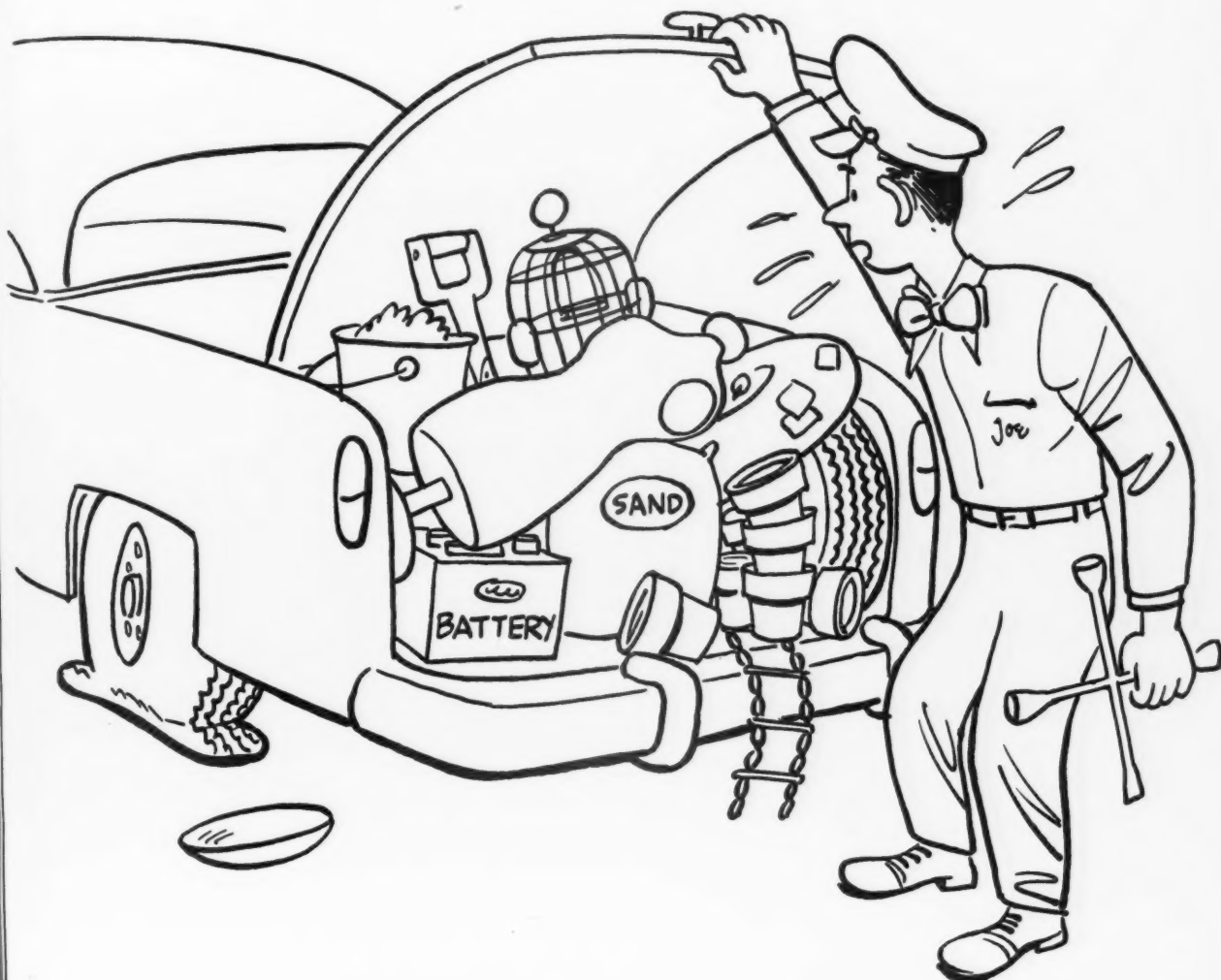
Display
this
sign!

to let people know that you recommend and install MoPar parts. For complete details, write to Advertising Dept., Chrysler Corporation, Parts Division, Detroit 31, Michigan.



CHRYSLER CORPORATION • PARTS DIVISION • DETROIT 31, MICHIGAN

It takes all kinds of customers...



...but they all want the best. And when it's bearings, just tell 'em it's *TIMKEN®*!

If you want to keep customers coming back to you, use the best replacement parts—parts whose names customers know and respect. So when you install a new tapered roller bearing, point out the trade-mark "Timken", the best-known name in bearings. The Timken Roller Bearing Company, Canton 6, Ohio. Cable address: "TIMROSCO".

TIMKEN *TAPERED ROLLER BEARINGS*

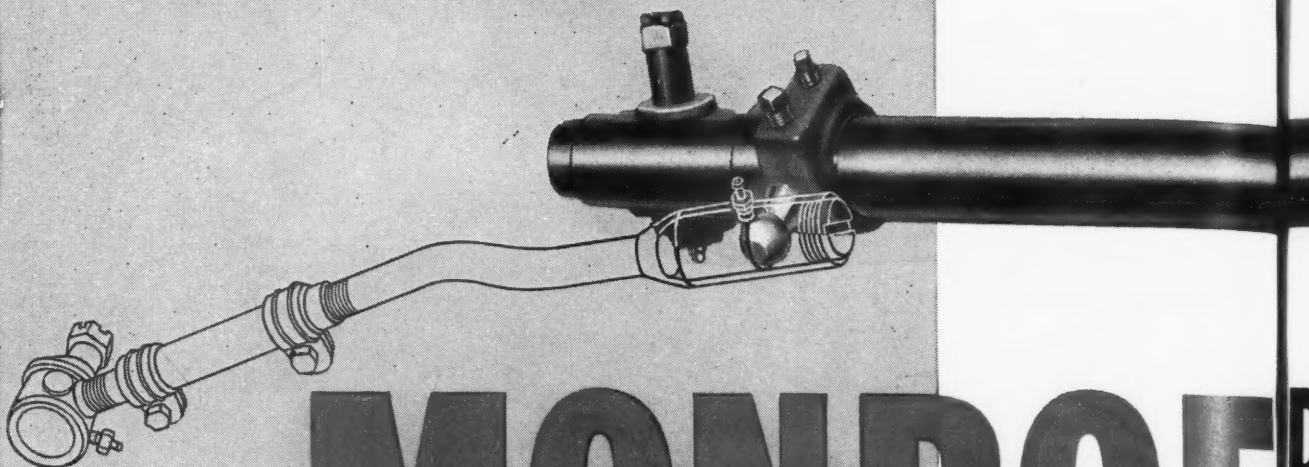
TRADE-MARK REG. U. S. PAT. OFF.



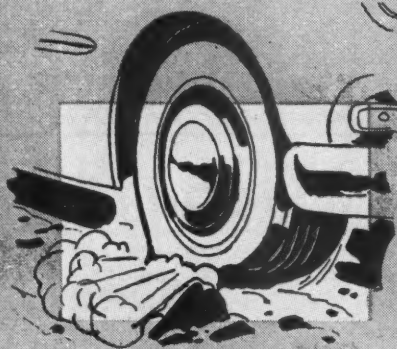
NOT JUST A BALL  NOT JUST A ROLLER  THE TIMKEN TAPERED ROLLER  BEARING TAKES RADIAL  AND THRUST  LOADS OR ANY COMBINATION 

Chilton's MOTOR AGE, August, 1953

POWER STEERING *you can put on*

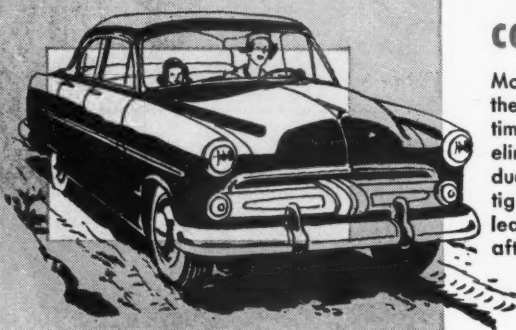


MONROE POWERS



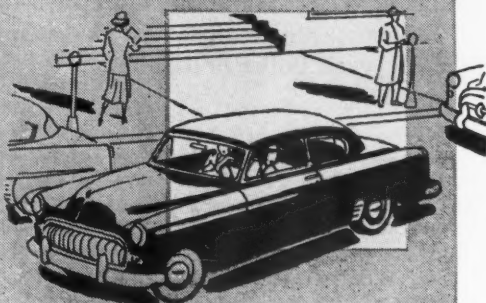
NEW SAFETY

Monroe Power Steering power-guides your car on soft shoulders, through gravel or sand, mud or snow. Holds car's course true in heavy cross winds. Blowouts, too, are robbed of danger when your car is equipped with Monroe Power Steering.



COMPLETE CONTROL

Monroe Power Steering gives you the "feel of the road" at all times, yet absorbs all road shock, eliminates wheel fight. This reduces nervous and muscular fatigue to absolute minimum—leaves you relaxed and rested after day-long trips.



EFFORTLESS PARKING

Monroe Power Steering takes the work out of parking. Three pounds of pressure on steering wheel applies 750 pounds to front wheels. This permits turning wheels easily even when car is standing, gives you easy, effortless parking.

Now!

DIRECT ACTION HYDRAULIC STEERING

Surest... Safest... Simplest

Here at last is power steering that can be installed easily, quickly, by the car dealer or service garage. Monroe Power Guide—compact, simple, efficient—is installed by replacing the original drag link with the valve and cylinder unit, and mounting the hydraulic pump and fittings. Because of its simplicity, Monroe Power Guide is the ideal power steering system for field installation. Most dealers and garages find they can install Monroe Power Guide in about four hours.

Monroe Power Guide has been thoroughly tested and approved by several car manufacturers for standard and optional equipment.

This unit is the result of years of experience in designing and building over fifty million hydraulic devices for the automotive industry.

There is a wonderful profit opportunity for dealers and service garages in Monroe Power Guide. Write today for literature and full details. Monroe Auto Equipment Company, Monroe, Michigan. Makers of Monroe Shock Absorbers and E-Z Ride Seats.

**AVAILABLE NOW FOR 1952 and 1953
FORDS AND MERCURYS.** *Units for other
makes and models available soon.*

Corrosion resistance

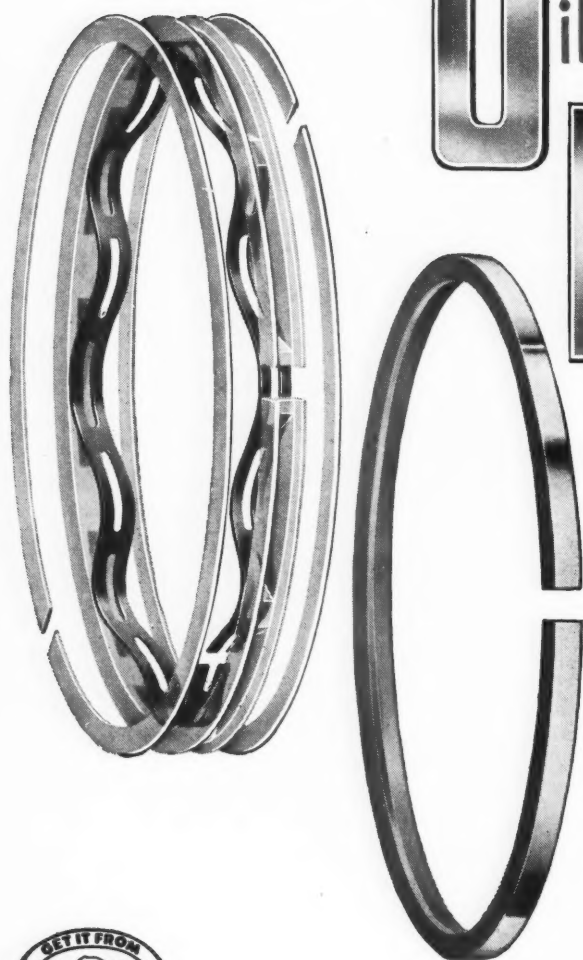
Heat resistance

Resistance to friction

Oil economy

More mileage

Easy starting



Sealed Power KromeX

FULL-FLOW RING SETS

- 1 Top compression ring is chrome-alloy cast iron with SOLID CHROME face, factory-lapped to a light-tight finish.
- 2 Side rails of MD-50 oil ring have SOLID CHROME faces, Granosealed sides for flexibility. Hundreds of thousands of cars have proved this ring best for oil control even in badly tapered and out-of-round bores.
- 3 All rings are beveled or tapered to threadline contact for quick seating and blow-by control.

SEALED POWER CORPORATION, MUSKEGON, MICHIGAN

Sealed Power Piston Rings

BEST IN NEW CARS! BEST IN OLD CARS!



Newscoop

"I Cover the Detroit Autofront" ..by Len Westrate

BRAKES ARE GETTING A LOT OF ATTENTION from car designers these days.

The big problem is space to put larger drums within the confines of 15-inch wheels. For that reason, disc brakes may get a larger play, even though more expensive; the brake people have a good one that could be used. They also are doing considerable experimental work on ceramic linings for disc brakes to resist high heat.

FORD WILL ADOPT BALL JOINT front suspension on its 1954 models. It will be of the same type now used on Lincoln. In addition to its new overhead valve V-8 engine, Ford will also make other improvements, including some style changes. Thinking at Ford is that it will have its best chance to catch up with Chevrolet in 1954 than at any time since the mid-thirties. Chevrolet will not have its new V-8 engine until 1955.

THE AUTOMOTIVE PARTS BUSINESS has settled down to hard competitive selling now that shortages are only a memory. Despite high car production, supplies of replacement parts including "crash items" to the field are adequate, with some dealers reportedly chopping inventories. As vehicle output tapers off this fall, even more material will be available for parts. Car companies are mulling plans to get a larger share of the parts business, have not yet hit on the formula they want. They report, however, that business is up from last year; one company is 20 per cent ahead of a year ago.

NASH HAS THE TOOLING COMPLETED for its four-door sedan in the Rambler line, but it probably will not be brought out before the turn of the year. It is designed to compete primarily with the Willys line and the Hudson Jet. It will be on a 108-inch wheelbase, compared with the present 100-inches on the current Rambler series. The NXI, Nash's small two-seater to be built in England, will not be announced until after the first of the year, according to latest reports.

LINCOLN-MERCURY HAS EXTENDED its price protection to dealers from six months to twelve months. Basically, this means that if the company cuts prices, the dealer gets a rebate on any current model that he has in stock less than a year. Other companies have similar provisions.

THE MICHIGAN AUTOMOBILE DEALERS ASSN. has published a work book on all phases of automotive retailing. Called "616 Years," its title represents the cumulative years of experience of its 23 authors, all veteran dealer members of the organization. Sections deal with selling new and used cars and trucks, service, financing, and other phases of dealer operation. It is available at \$10 a copy from the association's office at Lansing, Michigan.

GENERAL MOTORS HAS INCREASED its allowance to dealers on warranty and policy work. The new rate for labor on cars sold and serviced by the dealer will be 65 per cent, up 15 per cent. Allowances for parts and accessories also are boosted from dealer cost to dealer cost plus 10 per cent. The rate on "visiting" vehicles sold by other dealers handling the same make is increased to 100 per cent, from 90 per cent, on labor. Ford also is reviewing its warranty rates. Chrysler increased its rates a couple of months ago.

MORE ABOUT THE NEW HEADLAMP we told you about last month. In addition to more light intensity, it includes a filament cap for better illumination in fog and rain and less flash to approaching cars at close range. However, it could not be adopted before 1955, for it first must have the approval of state motor vehicle officials, expected in October, and then laws in some states will have to be changed. After that, suppliers will have to tool for it. Plans call for all companies to change over to the new lamp at the same time.

A NEW BUYING PATTERN MAY BE EMERGING in the new and used car fields. This year, instead of the usual spring buying surge, followed by a slump after July 4, the early season rush did not develop, but held a steady pace through most of the year to date. Used cars actually have shown some improvement in recent weeks after being rather slow during the late spring months.

THE INDUSTRY EXPECTS THE GOING TO GET ROUGHER in the months just ahead. Even the leaders concede that present pell-mell production, if continued, is going to make dealers scratch for business. With the terrific sales fight on between Ford and Chevrolet, the smaller independents are likely to get hurt.

FORD ENGINEERS HAVE MADE SURPRISING DISCOVERIES about loss of lighting efficiency with dirty headlight lenses. Tests showed that even very minor dirt accumulations, such as might be acquired in a normal day's driving, cause loss of 50 per cent of road illumination. This was true even when film was so light that filament and prism inside the lamp could easily be seen through the lens.

TRAFFIC SAFETY ADMITTEDLY IS A SERIOUS PROBLEM, but it may come as a surprise that the automobile accident fatality rate is far lower today than it was prewar. AMA reports that the lowest prewar fatality rate was 11.3 per 100 million vehicle miles, and the highest, reached in 1927, was 16.3. During the past four years, however, it has stood at about 7.5 fatalities per 100 million miles. This record is even better than it looks when the greater exposure of each vehicle to highway hazards is considered, for there are at least 50 per cent more vehicles on the roads today than there were in 1940.

FORD WILL SOON REVEAL ITS X-100 experimental car, first shown in plaster mock-up form two years ago. The car probably will be sent to Europe, for the shows there this fall. It is equipped with many devices and features common to such cars, but it is strictly experimental and not a prototype of any model to be built in the foreseeable future. Complete details are expected to be released by next month. It is reported that extensive use is made of aluminum, other light metals.

Washington Wireby Ray M. Stroupe

FEDERAL EXCISE TAXES ON AUTOMOTIVE ITEMS were looked on in late July as sure holdovers for Congressional action next year. Many members of Congress are willing to admit excises are too high and are hurting the businessman. They haven't found a way to do much about any kind of taxes, though. Next year, with elections in sight, they are likely to move in high gear on the problem of excises.

AUTOMOBILES OWNED BY FAMILIES with yearly incomes of less than \$5,000 would appear to be the ones needing most of the repair and maintenance work. The Federal Reserve Board says about two-thirds of the cars driven by families making \$7,500 or more are 1950 or later models. Half of the families in the \$5,000-to-\$7,500 bracket own 1950 or later models. Including all families, FRB adds, about 700,000 more owned cars in early 1953 than in early 1952.

TRAINING FOR YOUNG PEOPLE who could be learning the roles of skilled workmen is lagging badly. With a population approaching 160 million, the U. S. has fewer than 250,000 apprentices in all work lines. Western Germany, with about 47 million people, has some 2 million apprentices. One estimate shows we too should have a minimum of 2 million to keep our labor force healthy.

MAJOR TIRE COMPANIES AND DEALERS have assurances of getting a hearing for their complaint that a Federal Trade Commission ruling would disrupt their business. This ruling forbids quantity-limit discounts for shipments of more than 20,000 pounds, or one carload, of natural or synthetic rubber tires and tubes on a single order for delivery at one time. Manufacturers and distributors say this ban would mean an end to standing price set-ups in the tire business.

U. S. VACATIONERS MAY BE SPENDING as much as \$22 billion a year for vacations, using all types of means for traveling, according to a Chamber of Commerce estimate. This year's total will include spending of about \$9 billion by touring motorists alone. With millions of cars on the road this summer and fall, their drivers earmarking an estimated \$4 per day for car upkeep, the motor maintenance business should be improving.

MOTORISTS ARE LOSING AT LEAST \$3 billion a year because of over-crowded, unsafe roads and city streets, a Congressional committee was told recently. James Cope, vice-president of Chrysler Corp., said the cost can be measured in terms of higher expenses for operating cars in heavy traffic and in payment of doctor's bills for those injured in traffic accidents. He urged Congress to adopt a 10 year program to put the roads in first class shape.

SIMPLER CUSTOM LAWS WON'T MEAN new threats to the American retailer by letting in a great flow of duty-free goods. This is the view of writers of the customs bill which awaited Senate action late in July. Acting Senate Majority Leader William Knowland (R-CALIF.) said at that time the bill had an excellent chance of passage.

CHANGED GOVERNMENT RULES ON PUSH-MONEY TRADE practices carry a simpler list of unfair activities. No longer must a "sales person" tell the customer that money or any other reward is being received for pushing sales. Still banned are push agreements which cut down competition to a marked degree.

The U. S. Economyby Frank A. Bozek

THE FINAL TALLY ON FEDERAL FINANCES for the fiscal year which ended on June 30 shows that in spite of the greatest tax collections in any year in our history, the government wound up the year further in the red than at any time except in two full-scale wars. However, budget cuts now being made for fiscal 1954 offer more than a little hope for real economy within a very short time.

THE TREASURY HAS A TEAM OF EXPERTS busily cataloging a long list of possible revisions in the Federal tax structure--with price tags attached. The main concern seems to be how to revise the code, give relief, and at the same time prevent too much reduction in revenues.

THE TREASURY REALIZES THAT TAX REVISION could cost the government anywhere from a few hundred million to many billion dollars. For instance: cutting excise taxes to the 1950 level would cost \$1 billion. Individual relief would be even more expensive. If the present \$600 exemption were raised to \$1,000, the price tag would read almost \$9 billion, and if it were only raised to \$700, the cost would be \$2.5 billion.

LADIES' HANDBAGS A LUXURY? Not on your life says Representatives Katharine St. George (R-N.Y.) and Edna F. Kelly (D-N.Y.). The ladies have introduced a bill calling for the elimination of the 20 per cent excise tax on handbags. The argument: "Why it's just the same as if you put a tax on men's pants pockets."

Drought-Stricken West TexasA Round-Up

A SURVEY OF THREE KEY CITIES in dry West Texas reveals new and used car sales in Amarillo and San Angelo have been affected little by the current Southwestern drought. On the other hand, dealers in Lubbock report business is off as much as 20 per cent.

A POLL OF LEADING AUTOMOBILE DEALERS report sales of new cars there have increased this year over the same period in 1952. The dealers attributed this to the fact that there are more new automobiles available to them now than last year. Amarillo used car dealers also said their sales were up over last year. However, both new and used car dealers said profits have not increased because profit-per-unit is down.

THE BODY REPAIR BUSINESS appears about equal to that of last year. One Amarillo body man said 1,700 wrecks in the city this year have kept his firm's body repair business humming. The story was about the same at San Angelo, with the exception of one dealer who said his business in both new and used cars was 25 per cent below normal. He explained his present sales are averaging about 26 to 30 new cars monthly, compared with 35 to 40 during the same time last year.

ON THE OTHER HAND, another San Angelo dealer said his firm had no difficulty in selling new cars, and still another said prices of used cars were rising appreciably. The body repair business in San Angelo appears about average, with increases reported by some shops.

THE PICTURE, HOWEVER, WAS DIFFERENT at Lubbock where dealers said business was off 20 per cent below last year's average, due, primarily, to drought conditions. Repairmen said their business also slumped perhaps five per cent below normal.



ALONG the ROAD

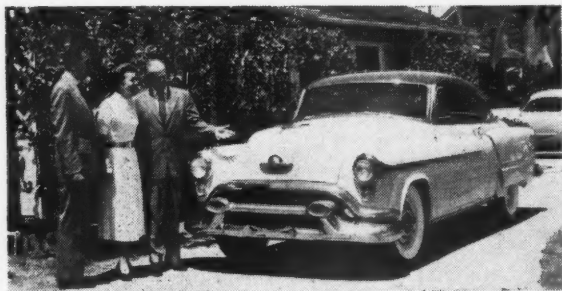
AMERICA IS A NATION OF BUYERS. Food stores sold us 40 billion dollars worth of grub last year. We spent 3 billions for booze at liquor stores. Our headaches were allayed and other drug sundries were dispensed to the tune of 4 billions. All of these and hundreds of billions of dollars of other goods were carried to "the door" of American buyers over highways so inadequate and congested as to add substantially to the cost of shopping for the housewife, the cost of living for the family and the cost of doing business for the merchant and manufacturer.

AMERICANS BUY IDEAS, TOO. And America will buy the idea of better and safer highways—but nobody's going to force the sale! We must inspire leadership of citizens in our communities to bring about the idea of better and less expensive transportation. "Start Some Talk In Your Town..." says N.A.D.A.'s most interesting booklet. It tells you what to do and how to do it. Project Adequate Roads (PAR) is another highly worthwhile endeavor that needs nurturing at the grass roots.

This is a matter that required action in almost every community in our land. Show your customers, friends and business associates how unsafe highways, traffic congestion and inadequate parking facilities are the hidden costs in every family budget.

Frank Tighe
Editor

NEWScene



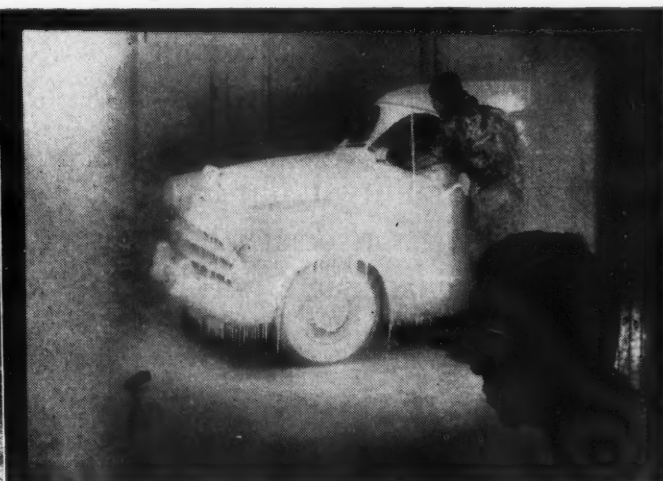
Demonstration campaigns

Movie starlet Gale Storm (center) and her husband, Lee Bonnell (left) are taken on an Oldsmobile "Double Date" demonstration. Right: Not an Arthur Godfrey commercial, this is part of Hudson dealers campaign that permits prospective customers to test Jet mileage on a cupful of gas.



Hot, Cold, and Indifferent

Left: While the residents of Los Angeles were sweltering in 90-degree heat, Dennis Watson, 3 years old, solved the problem of washing his car in his own way. Lower left: New York's sizzling plus-90 temperature proved too much even for these cars. Overheated engines and stalled cars were the order of the day and the "victims" stretched all the way from the George Washington bridge to 79th St. Bottom: These men laugh at summer's sizzling heat as they work in temperatures as low as 40 degrees below zero to gather data on the operation of Chrysler corporation automobiles.





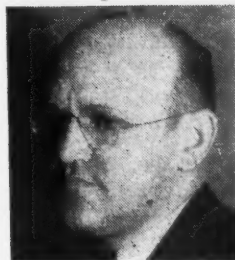
Tests of Strength

An unidentified group test the strength of the "Wildsire," an American car made of plastic and glass, recently exhibited at the Chemical Show in Paris. Bottom: Five cars and a tractor are placed on this trailer-type home in a test of strength. There's a fixture in the roof that allows a crane to pick up the house and load it onto a trailer for transportation to any site. The house was built by Albert Bachland, of North Adams, Mass.



Engineering Highlights

by
Joseph Geschelin
Engineering Editor



ASIDE from engine developments which have gripped attention in recent years, there is intense activity in the field of automatic transmissions and power steering for passenger cars. Power steering, in particular, has excited the imagination because of its spectacular rise in a period of but two years.

Automatic transmissions have taken longer to become established although in recent years the rise in demand has been so striking as to command respect. Moreover, there are many improvements in the offing as well as the likelihood that this feature will now dominate the scene.

Data Based on Estimates

Although the adoption of these extra cost equipment items has been exciting, only the availability of authentic statistical data can give the industry the real facts in terms of car production. Up to now it has been necessary to rely upon estimates and educated guesses.

The table on page 105 shows the compilation of intensity of use of these devices on all makes of cars. It must be noted that figures for the first six months of 1953 are estimated, in the main.

As indicated, the figures on power steering are incomplete for some good reasons. In the first place, some makes have not yet adopted this device, while others began making installations only recently. In several instances the manufacturers have chosen not to report, for reasons best known to themselves.

(Continued on page 105)

owner, for himself and his son, James D., who was driver of the car.

In affirming this, Justice G. B. Smedley wrote that "the suspension of a driver's license or car registration is not a taking of property . . . It can be terminated by depositing security, or by other disposition."

Efforts failed in the recent Legislature to repeal or modify the safety-responsibility law. It requires drivers or car owners in traffic accidents to prove ability to pay damages up to \$15,000, pending proof of innocence in the accident or absence of a damage suit for one year.

Six Months New Car Sales Near 3 Million Mark: Polk

New passenger car sales for the first six months of 1953 approximated 2,800,000 units, R. L. Polk and Co., statisticians for the automotive industry, estimated.

May new car sales reached the highest point since December, 1950, with 540,575 new cars being registered. This was 12,000 more cars than for April, and marked the sixth consecutive month in which new car registration showed increases.



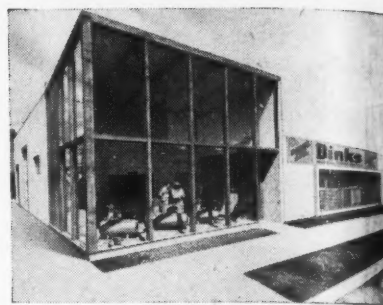
Aids Medical Research

Joseph Cherner, president of the Cherner Motor Co., Washington, D. C., was presented with an illuminated scroll in appreciation of his efforts in behalf of the Albert Einstein College of Medicine. Cherner recently contributed \$50,000 toward the establishment of a Joseph Cherner Laboratory in Cardiovascular Research at the College. Left to right are: Samuel Hausman, Max J. Etra, Cherner, and George Alpert.

Binks West Coast Office

The Binks Manufacturing Company, makers of spray painting equipment, announced the opening of a new branch sales office and warehouse at 950 Newhall St., San Francisco. Binks now has sales offices in 24 cities, ten of which have warehouse facilities.

The new facilities provide 7,500 square feet of space. The building contains a conference room, a sales and demonstration room, and offices for sales and executive employees of the branch.



1953 RETAIL CAR SALES BY PRICE GROUPS* NUMBER OF CARS

Price Group	May				Five Months			
	1953		1952		1953		1952	
	Units†	% of Total	Units†	% of Total	Units†	% of Total	Units†	% of Total
Under \$2,000 . . .	292,927	54.46	218,978	52.19	1,252,035	53.88	910,907	53.42
\$2,001 to \$2,500 . .	152,923	28.44	121,497	28.98	653,874	28.14	525,164	30.80
\$2,501 to \$3,500 . .	69,787	12.98	61,027	14.55	319,824	13.78	201,748	11.83
Over \$3,500	22,154	4.12	18,026	4.30	98,131	4.22	67,428	3.95
Total	537,791	100.00	419,528	100.00	2,323,864	100.00	1,705,247	100.00

DOLLAR VOLUME OF SALES*

Price Group	May				Five Months			
	1953		1952		1953		1952	
	Dollars	% of Total	Dollars	% of Total	Dollars	% of Total	Dollars	% of Total
Under \$2,000 . . .	\$522,243,006	45.97	\$387,443,756	43.74	\$2,243,304,179	45.29	\$1,607,095,950	45.03
\$2,001 to \$2,500 . .	340,176,401	29.95	269,939,394	30.38	1,461,190,558	29.50	1,165,202,795	32.65
\$2,501 to \$3,500 . .	191,283,258	16.84	163,574,770	18.47	877,560,795	17.72	548,770,505	15.38
Over \$3,500	82,272,884	7.24	65,829,796	7.43	370,920,057	7.49	247,612,591	6.94
Total	\$1,135,975,549	100.00	\$885,787,716	100.00	\$4,952,975,589	100.00	\$3,568,681,841	100.00

*—Calculated on basis of new car registrations, as reported by R. L. Polk & Co., in conjunction with advertised delivered price at factory of four door sedan or equivalent model. Does not include transportation charges or extra equipment.
†—New registrations of American made cars only. Does not include imported foreign cars.

1953 NEW PASSENGER CAR REGISTRATIONS*

Arranged by Makes in Descending Order According to the 1953 Five Months' Totals

MAKE	FIVE MONTHS							
	May 1953	April 1953	May 1952	Units		Per Cent of Total		
				1953	1952	1953	1952	
Chevrolet.....	129,764	126,378	87,033	532,692	361,084	22.79	21.05	
Ford.....	90,112	85,273	70,670	403,000	286,835	17.24	16.71	
Plymouth.....	54,207	53,920	45,237	244,132	188,367	10.44	10.98	
Buick.....	43,549	43,485	31,040	189,218	130,995	8.09	7.63	
Pontiac.....	38,314	36,549	26,236	161,021	107,175	6.89	6.24	
Oldsmobile.....	31,690	30,278	22,062	133,239	92,120	5.70	5.37	
Dodge.....	30,249	30,524	27,662	128,732	99,672	5.51	5.81	
Mercury.....	21,317	21,250	18,240	101,700	72,977	4.35	4.25	
Nash.....	15,076	16,077	15,478	72,509	55,487	3.10	3.23	
Studebaker.....	19,318	18,614	16,333	66,972	74,131	2.86	4.32	
Chrysler.....	14,771	15,099	11,434	66,248	49,616	2.83	2.69	
De Soto.....	11,620	11,496	9,150	50,878	38,636	2.18	2.25	
Cadillac.....	9,726	9,770	8,302	46,137	33,716	1.97	1.96	
Packard.....	7,725	8,057	6,899	36,829	27,756	1.56	1.62	
Hudson.....	7,541	7,491	8,270	31,208	32,069	1.33	1.87	
Willys.....	4,521	4,918	3,879	23,413	13,310	1.00	.79	
Lincoln.....	4,596	4,011	2,806	16,553	9,669	.71	.56	
Kaiser.....	2,559	2,731	3,868	12,781	15,848	.55	.92	
Henry J.....	1,000	1,201	4,435	5,927	13,451	.25	.79	
MG (British).....	730	638	688	3,246	2,401	.14	.14	
Hillman (British).....	408	448	404	2,061	1,668	.09	.10	
Ford (British).....	303	390	327	1,961	1,473	.08	.09	
Jaguar (British).....	339	402	245	1,775	1,071	.08	.06	
Austin (British).....	275	353	540	1,658	2,110	.07	.12	
Allstate.....	57	55	178	321	567	.01	.03	
Misc. Domestic.....	215	282	424	960	2,358	.04	.14	
Misc. Foreign.....	593	606	378	2,829	1,660	.12	.10	
Total—All Makes.....	540,575	528,278	422,217	2,338,000	1,716,220	100.00	100.00	

* Based on data from R. L. Polk & Co.



Closing an Odd Plymouth Deal

Here's the payoff on the strangest deal Plymouth dealer Charles V. Moran (extreme right) of El Monte, Calif., ever made. The customer, David W. Martz, saved money for a new Plymouth by dropping half-dollars in the gas tank of a 1937 car for four years. Martz is shown shaking out \$820 in silver as his family and salesman Neil Smith (second from right) look on. The coins weighed 45 pounds and displaced approximately 8.5 gallons of gas.

NADA Show to Feature Truck Equipment Exhibit

A new attraction will be added to the 1954 National Automobile Dealers Equipment Exhibition to be held in Miami Beach, Fla., January 9-13, in the form of an exhibit of special equipment used on trucks.

The exhibit will include special truck bodies of all kinds, such as dump and special appliance bodies, lifts, and others. Various mechanical equipment will be displayed. A number of safety appliances, some of which are required by state law, will be available for inspection.

NADA will again present clinics on service in connection with the Exhibition. They have been scheduled for the week-end so that service managers can attend without loss of time from their work. NADA makes no registration charges for service managers to see the Exhibition and to attend the clinics on service.

Unsafe Brakes Lead List In Safety Check Survey

The results of four weeks of "Safety Checks" of vehicle condition has revealed that one vehicle of every six checked had brakes in poor to dangerous condition, reported W. F. Hufstader, chairman of the Inter-Industry Highway Safety Committee and vice-president of General Motors, in announcing results of the annual "Check

Your Car (Truck)—Check accidents" program.

The Safety Check program was conducted during the month of May by the Inter-Industry Highway Safety Committee, in cooperation with the National Safety Council.

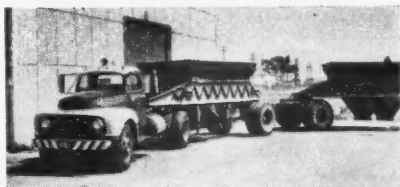
1,755 Dealers Participate

Results were obtained on the basis of safety checks made by 1,755 automobile, truck and tire dealers in all states, the District of Columbia, and Hawaii. Ten items affecting safe vehicle operation were included in the spot check of 423,533 vehicles.

Heading the list of items checked and needing maintenance attention for safe vehicle operation were: brakes—one out of six; front lights—one out of eleven; rear lights—one out of thirteen; steering—one out of thirteen; and exhaust systems—one out of fourteen. Other items checked were windshield wipers, tires, glass, horn, and rear-view mirror.

Miracle Power Tests Show Less Oil Use, Engine Wear

Project 307-2, a program undertaken by the AP Parts Corporation to determine the effects of Miracle Power—when added to the fuel and oil—has shown that the engine with the additive used oil at a rate of 50 per cent less after more than 45,000 miles of over-the-road driving.



Two new 1952 heavy-duty truck engines were used in the test, conducted in the Commercial Fleet Test of Wetmore Hodges and Associates, Redwood City, California.

Both Engines Inspected

Upon receipt of the engines from the factory, the laboratory's first step was to tear them down, and have each part cleaned, inspected, and measured or weighed. Both engines were set up to car factory specifications.

The two test trucks were placed

in regular commercial service hauling bulk material. Factory-Rated at 41,000 pounds gross vehicle weight, the trucks were loaded to 76,000 pounds gross vehicle weight. The trucks accumulated essentially equal mileage and traveled only 15 minutes apart for the full test period.

Complete Records Kept

Complete records were kept constantly on fuel and oil consumption, operating time, miles traveled, temperatures, service and maintenance required, and performance characteristics.



View of laboratory in which test engines were disassembled and examined.

The tests further showed that the truck using the company's product had 100 per cent longer fuel pump life, 56 per cent longer spark plug life, had 13 per cent more compression, showed 15 per cent less ring wear and 49 per cent less cylinder bore wear.

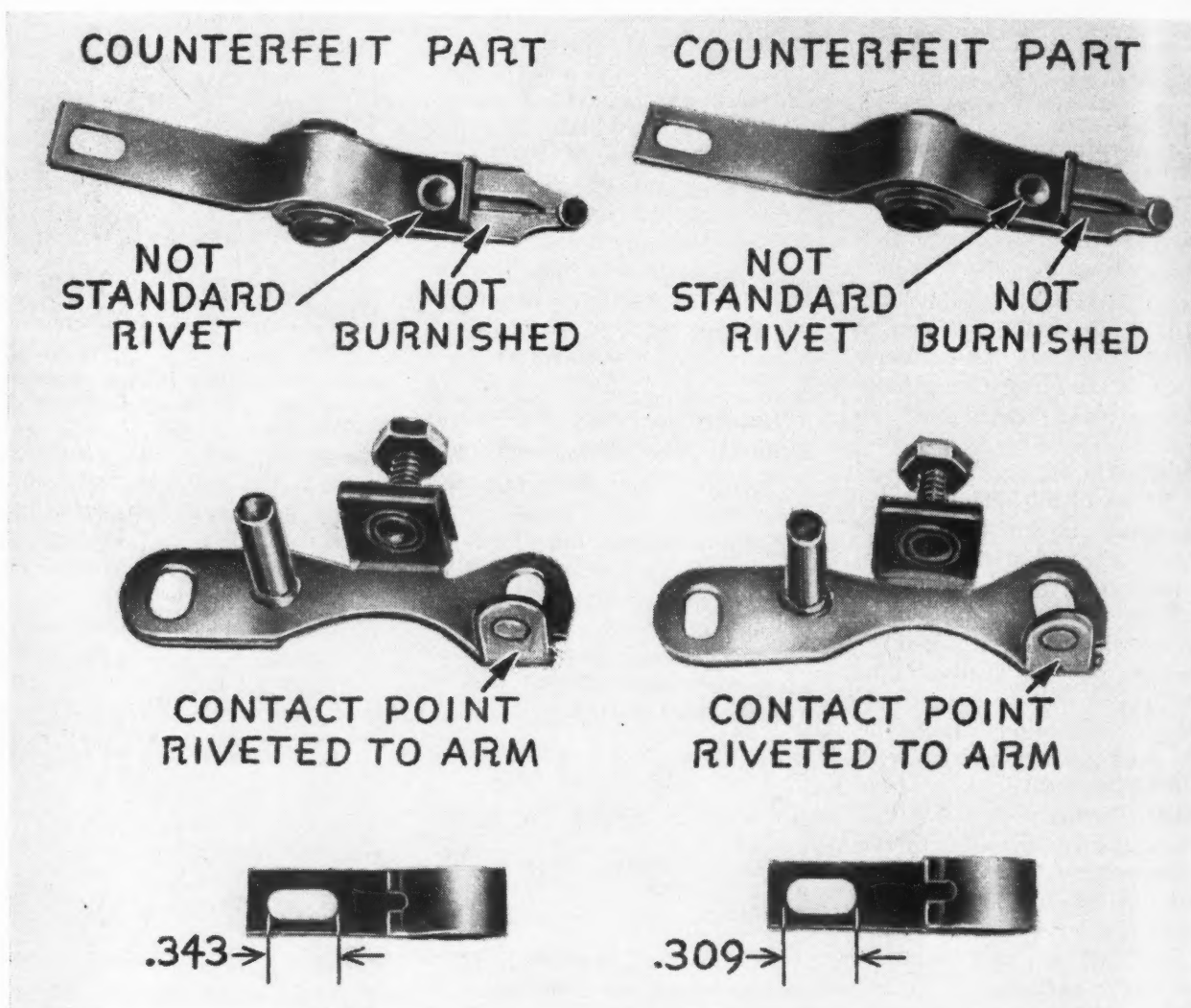
In addition, the parts and accessories divisions of three major car manufacturers had tested Miracle Power, and approved that it be packaged for distribution through their outlets. The same basic ingredients are used in the manufacture and overhaul of aircraft engines by the U. S. Air Force and commercial air lines.

Safety-Responsibility Act Upheld by Supreme Court

Legal power of the Dept. of Public Safety to cancel a car owners driver's licenses and the car figured in an accident while driven by another person was affirmed by the Texas Supreme Court in a decision upholding the safety-responsibility law.

The Supreme Court upheld the judgment of the San Antonio Court of Appeals in the suit brought by D. C. Gillaspie, car

COUNTERFEIT PARTS Can



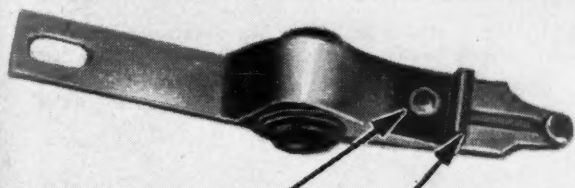
Shown here are three sets of ignition points, the left two of which are "counterfeit," or sub-standard in specifications.

A job's only as good as the parts going into it, and a comeback is often due only to failure of an inferior part bought in good faith

THERE is an old Latin expression "Caveat emptor," which means "Let the buyer beware." It is a pretty good philosophy but has fallen into some disrepute because all too often it has been an excuse for the fast buck artist to flim-flam the buying public. Consequently, today it is never mentioned in polite society so far as general ethical business

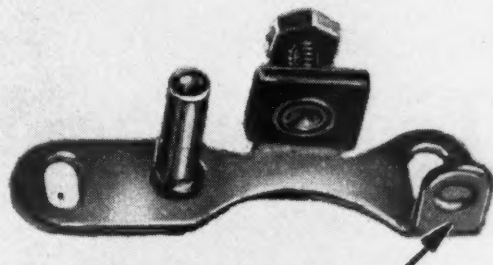
Cost *Plenty*

STANDARD PART

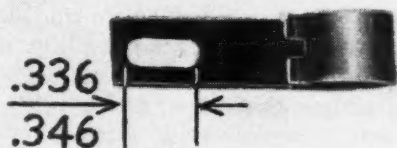


STANDARD RIVET

BURNISHED



CONTACT POINT
BRAZED TO ARM



Shown above is a set of standard quality parts.

is concerned, due to its sour connotation.

However, with just a slight switch of direction "caveat emptor" is a very sound policy for operators of repair shops and automobile dealerships when they are offered what ostensibly are standard quality parts and accessories from unknown sources. In a business as large as the replacement parts and accessory industry (more



by Leonard Westrate
Detroit News Editor

This photograph of Len Westrate was taken during a recent assignment which took him to the battlefields of Korea.

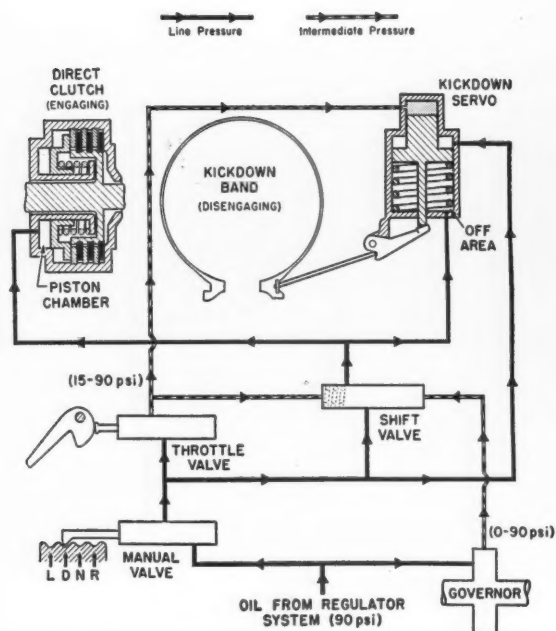
than \$2.3 billion a year) there are many opportunities for the shady operator to palm off "hot," counterfeit, or just plain shoddy merchandise on unwary buyers, and more of it is going on than is generally realized.

Just to set the record straight, this is not to say that here is any sizeable percentage of shady operators or tainted merchandise afloat in the field. However, even a small percentage of such a large market can account for a substantial chunk of business for the fly-by-night operators and any individual service shop or dealership taken in by these sharpies can get quite a severe jolt.

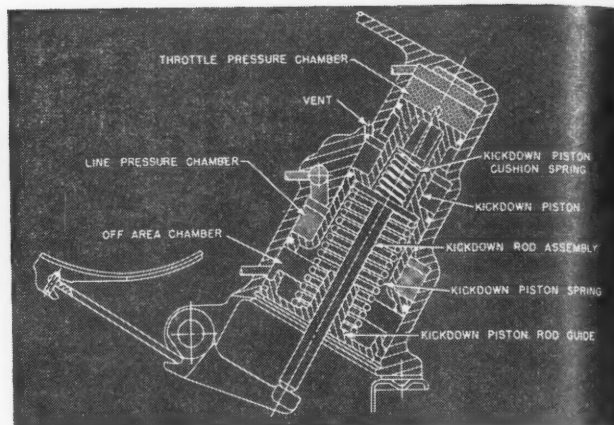
Three principal categories for trouble are stolen parts, inferior counterfeit items packaged and sold as reputable brand name parts, and out-and-out sleazy imitations sold under a different brand name or no name at all. How these items get into the regular channels of trade, why legitimate repair establishments should steer clear of them, and how they may be recognized are matters of interest to all ethical replacement parts buyers.

First, aside from reluctance of any honest business man to line the pockets of an unscrupulous operator, even at an apparent profit to himself, it is just like playing "Russian roulette" to buy merchandise from a dubious source. If the parts fail there is no recourse from the seller, who has most likely long since folded his tent; the customer is unhappy, and there even may be costly and embarrassing

(Continued on page 106)



Layout of the control mechanism showing the action in Drive range with direct clutch engaged.



This sketch of the kickdown servo shows the related parts which actuate the kickdown band.

The PowerFlite automatic transmission

Here's How Chrysler's New Transmission

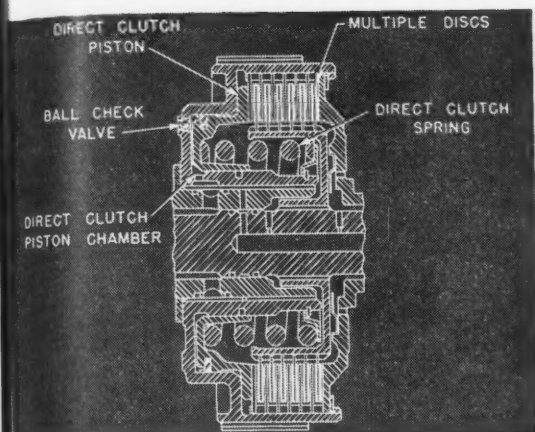
INTRODUCTION of PowerFlite by Chrysler Corp. presents a fully automatic transmission for Chrysler Div. cars, combining a high performance torque converter and a simple, two-speed planetary gearbox. The conventional clutch pedal and clutch have been eliminated, thus making it possible to achieve full range performance without removing the foot from the accelerator pedal.

PowerFlite has two driving ranges—"Drive" for all normal operations; and "Low" for unusual driving conditions such as climbing or descending mountainous roads. Starts in Drive range accelerate the car in low gear with the aid of the torque converter, shifting into direct drive at the proper time. This is a fully automatic power shift. The drive also provides a kickdown feature (by depressing the pedal to

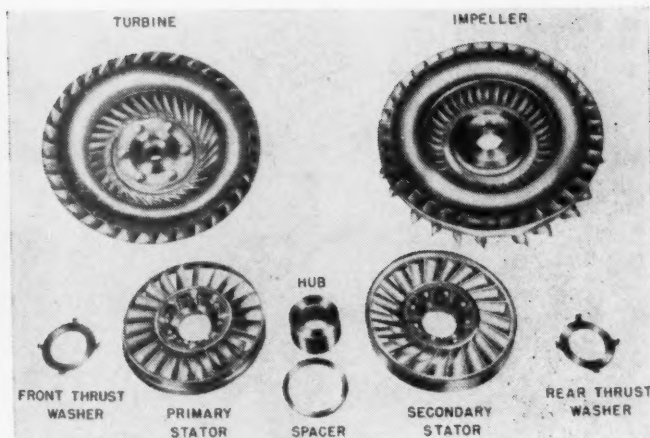
floor board) if additional acceleration is required while in direct drive.

Starting torque ratio of the new torque converter is 2.6 to 1. When combined with the low gear ratio of 1.72 to 1, the resulting overall torque multiplication at breakaway is 4.47 to 1. Chrysler claims that the new drive has the lowest weight and smallest number of parts to be found in any current automatic drive.

PowerFlite has some features of general interest from the standpoint of the driver. First of these is selector lever operation which is simplified by means of a gated movement. In the first place, Reverse is adjacent to Neutral at the left side; while Drive and Low are on the right. Gating of selector lever operation makes it necessary to lift the lever toward the driver to engage either Reverse on the left or

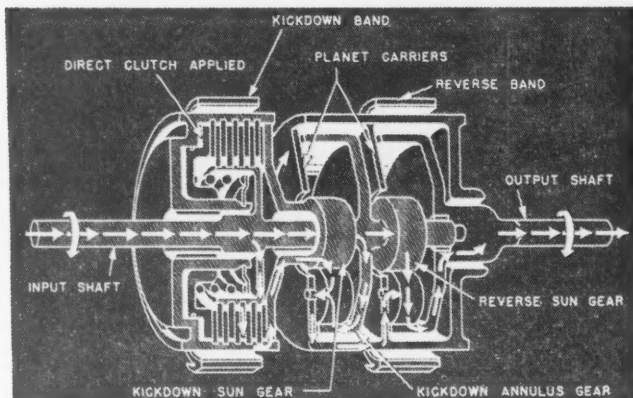


The direct drive clutch, which "locks out" the torque converter automatically.



View of the new four-element torque converter disassembled. This unit is serviced as a complete assembly.

Cross sectional view of the direct clutch and planetary gear train, showing power flow in direct drive.



will first appear on Imperial models

Operates

Low on the extreme right. This arrangement makes it possible to select the desired positions by feel without the need for watching the indicator pointer.

One of the mechanical simplifications of this drive stems from the elimination of a built-in parking lock with its sprag mechanism. For parking, Chrysler continues to rely on its expanding hand brake on the propeller shaft.

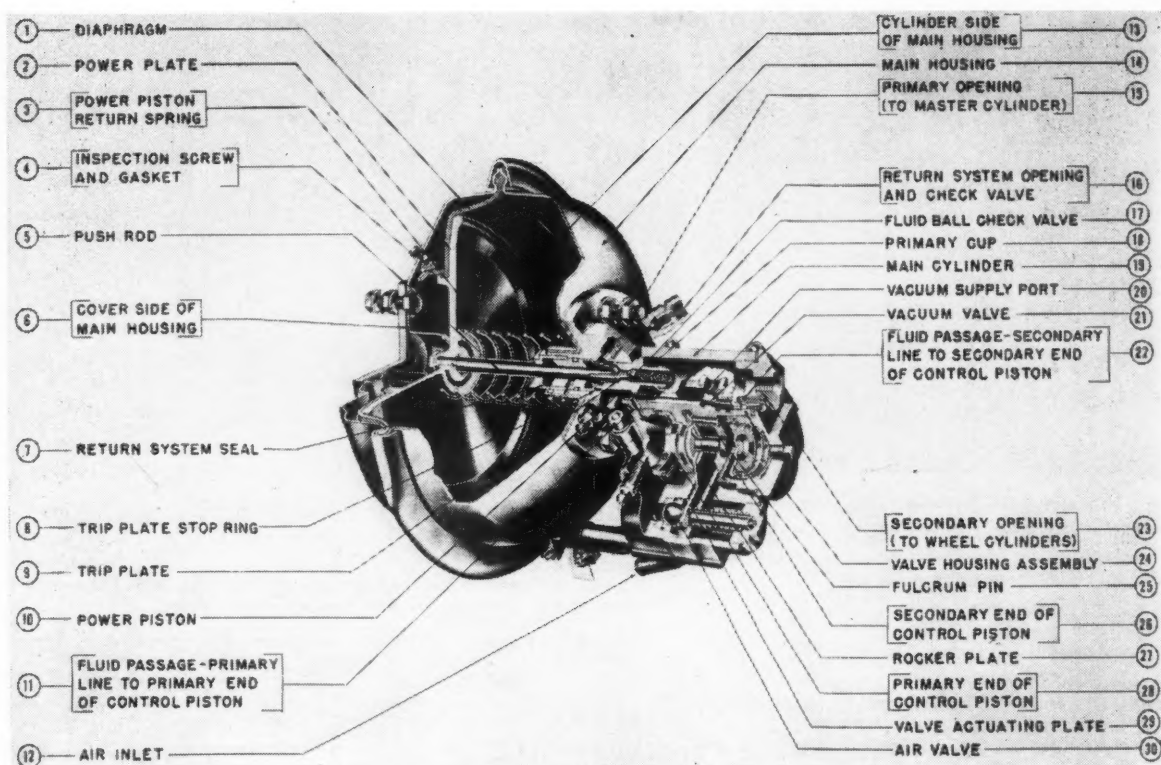
Since the selector lever is interlocked with the starter circuit, the driver must place the transmission in neutral before the engine can be started. If the need arises, a PowerFlite-equipped car can be started by pushing, holding the transmission in neutral until a speed of about 25 mph has been attained, then shifting into Low.

The new torque converter consists of four

elements: an impeller, a turbine and two stators. Both the impeller and turbine are hydrogen-brazed assemblies of stamped parts; while the stators are precision aluminum castings. The unit is serviced as a complete assembly since the two halves of the torque converter shell are welded together. The torque converter housing is made of die-cast aluminum alloy. It is of interest that the mechanism is cooled by means of a water-cooled heat exchanger.

Each stator is mounted on an overrunning clutch, consisting of eight spring-loaded rollers mounted within an internal cam around the periphery of the hub. Since the hub is held stationary by the stator reaction shaft, which is bolted to the transmission case, each overrunning clutch prevents its stator from moving in a direction opposed to turbine and impeller rotation, but allows it to rotate freely with tur-

(Continued on page 98)



Cross sectional view of the Kelsey-Hayes power brake unit, showing the major working parts.

A Service Guide On

THE Kelsey-Hayes power brake to be discussed here is used on Chrysler products and could be adapted to most any make of the car.

There are two types of boosters made by Kelsey-Hayes for use on passenger cars: the external valve mechanism and the internal valve mechanism type. The external valve type can be identified as follows: the hydraulic portion of the power unit is located in the front of the vacuum diaphragm housing, with no part of it extending to the opposite side of the diaphragm housing.

The internal valve type is identified as follows: half of the hydraulic portion of the unit is located to the front of the booster diaphragm; the other half is located in the back.

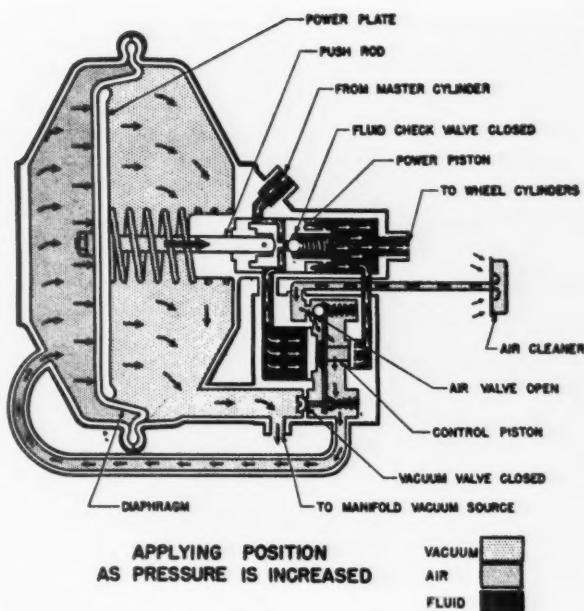
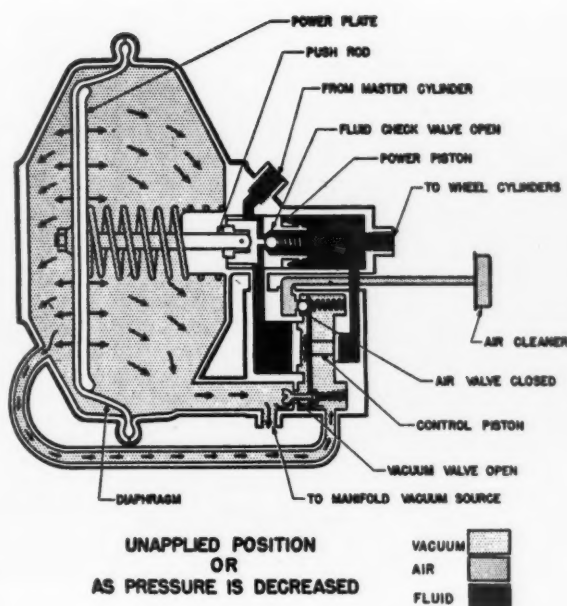
No actual adjustment is possible on the brake booster unit since it is designed to work in the relation of the area of the primary side of the pistons to the secondary side up to the limit that the vacuum cylinder can put on the brake system.

The brakes are bled in the usual manner and the only maintenance requirement is to see that the unit does not leak.

Troubleshooting

Brakes will not release properly.

The following test is for internal type only. With the engine shut off, pump the brakes several times and check for release. If not released, crack the line between the master cylinder and the power unit. If this releases the brakes, the trouble is not in the power



Simplicity is an important advantage of this unit, used on
Chrysler products . . . by Jack Montgomery, Technical Editor

Kelsey-Hayes Power Brakes

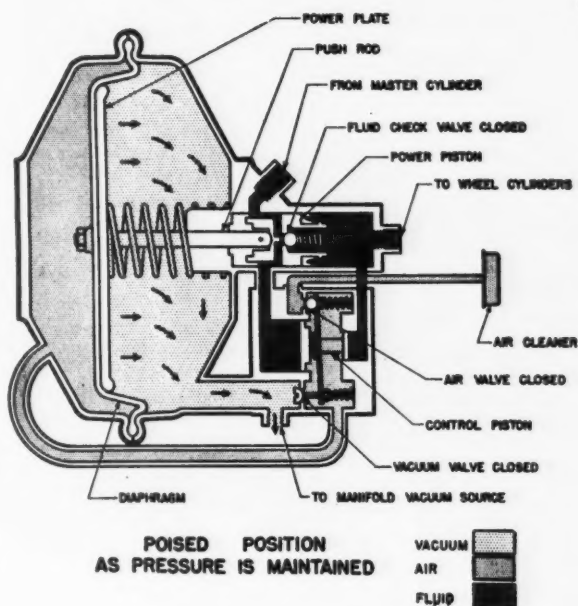
unit. If this does not release the brake, crack the hydraulic line between the secondary cylinder and the wheel cylinder. If this releases the brakes, the trouble is in the power unit.

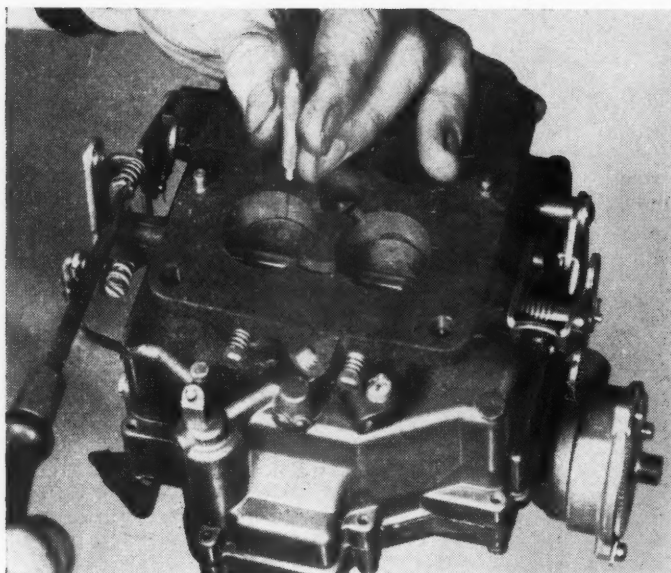
Cause: Improper opening of the fluid check valve ball. (Internal Valve Type Only.)

Cure: Remove the primary cylinder and cap and check for damaged or missing trip rod stop plate or trip rod.

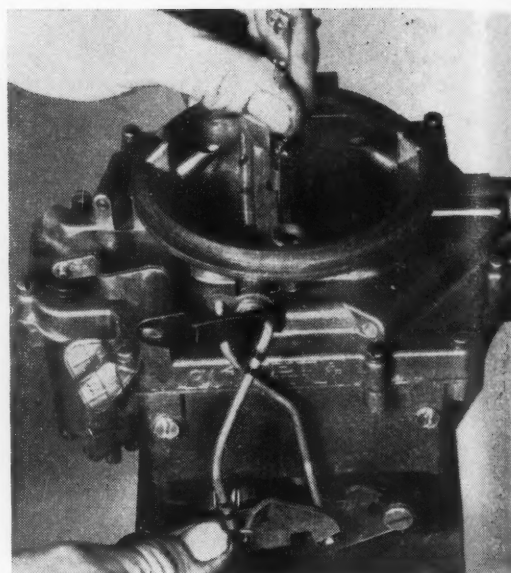
On both types, with the engine running, check the brakes for release. If not released, crack the line between the master cylinder and the power unit. If this releases the brakes the trouble is not in the power unit. If this does not release the brakes, crack the hydraulic line at the end of the cylinder between the

(Continued on page 88)

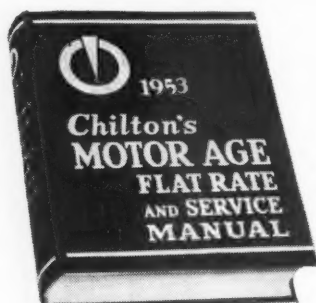




1. Special gage in position for checking fast idle adjustment.



2. Using gage to check unloader adjustment.



Other valuable information of the type presented here can be obtained in Chilton's Motor Age Flat Rate and Service Manual.

Explained in this article are the "how's", "where's" and "why's" of troubleshooting and adjusting the new Olds and Cadillac carburetor

by Ed Shea

Asst. Editor Chilton's Motor Age
Flat Rate and Service Manual

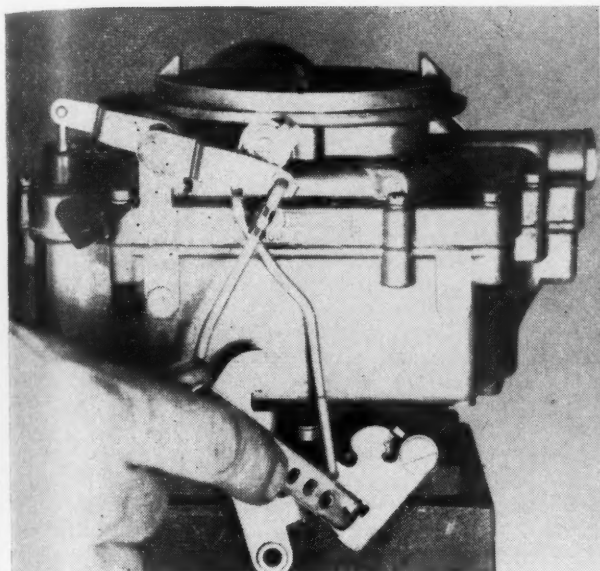
Tune Up Tips

THE Rochester carburetor Model 4GC is used on the 1952 and 1953 Cadillac and Oldsmobile. It is fundamentally a dual throat downdraft carburetor having a primary and secondary side.

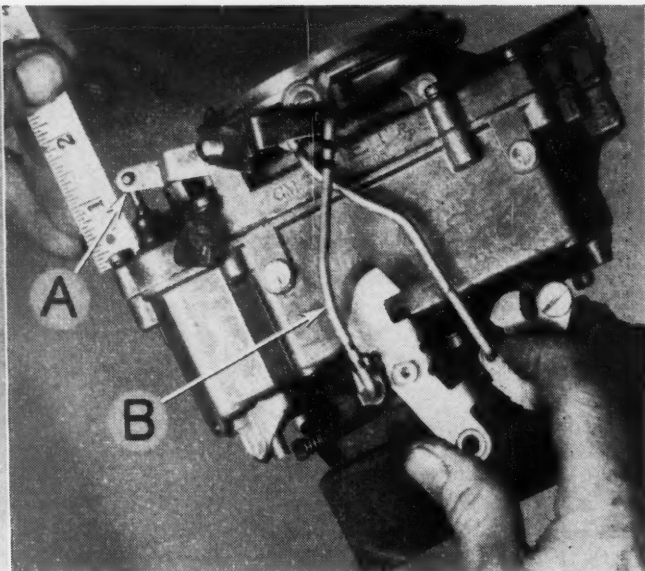
The primary side contains accelerating pump, float, automatic choke, low speed and high speed systems. The secondary side has a float, low speed and high speed systems.

The throttle valves on the primary side are connected by mechanical linkage to the accelerator pedal. The throttle valves on the secondary side are connected by spring loaded linkage to the primary side, therefore the primary throttle opens and closes at the will of the driver. The secondary throttle is operated partially by the will of the driver (spring loaded linkage) and partly by the torque demands of the engine.

Usually a carburetor will maintain its original adjustment for a long period of time. No



3. A special tool for bending the unloader tang.



4. For proper pump travel (A), bend linkage at (B).

on the Rochester Carburetor

carburetor should be adjusted without first checking compression, ignition and the intake manifold for leaks. The engine must be properly tuned for a carburetor to function properly.

Fast Idle Adjustment

The purpose of this adjustment is to keep the engine running comparatively fast during the warmup period (choke on). It is connected to the choke line and is intended to work in harmony with it.

The adjustment is made by placing the throttle in the closed position then set the fast idle screw on the highest step of its cam. Turn the fast idle screw until a .028 inch wire gage will enter between the throttle valves and the bores of the carburetor opposite the idle port on the primary side. (See Figure 1.)

Unloader Adjustment

The purpose of the unloader is to de-choke

the engine if it fails to start due to ignition failure. The adjustment is made as follows:

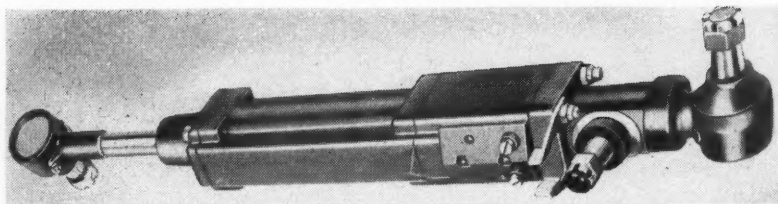
Place the throttle valves in the wide open position and hold the trip lever down until it contacts the choke counterweight. Holding the lever in this position, there should be a clearance (.067 inch for Cadillac; .092 inch for Oldsmobile) between the divider and butterfly in the air horns. (See Figure 2.) Adjustment is made by bending the tang of the fast idle cam. (See Figure 3.)

Accelerating Pump Rod Adjustment

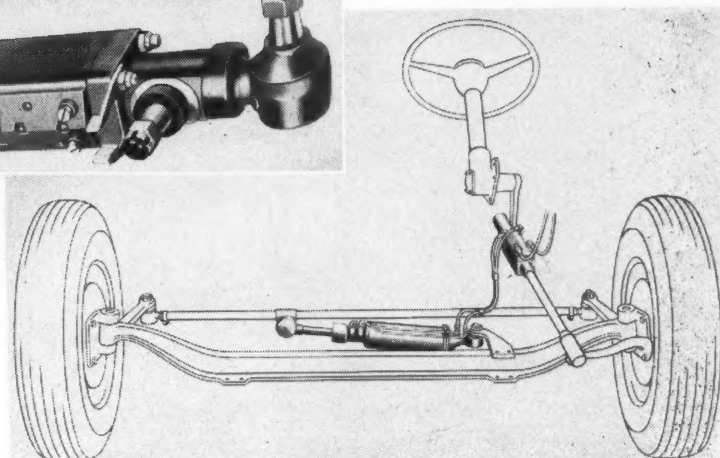
The purpose of this system is to feed an extra amount of fuel during acceleration which is necessary to provide smooth power on quick acceleration. When the car fails to accelerate properly proceed as follows:

With the throttle valves seated in the bores of the carburetor, carefully bend the pump rod

(Continued on page 92)



Above. The actuating cylinder, which mounts in the steering linkage.

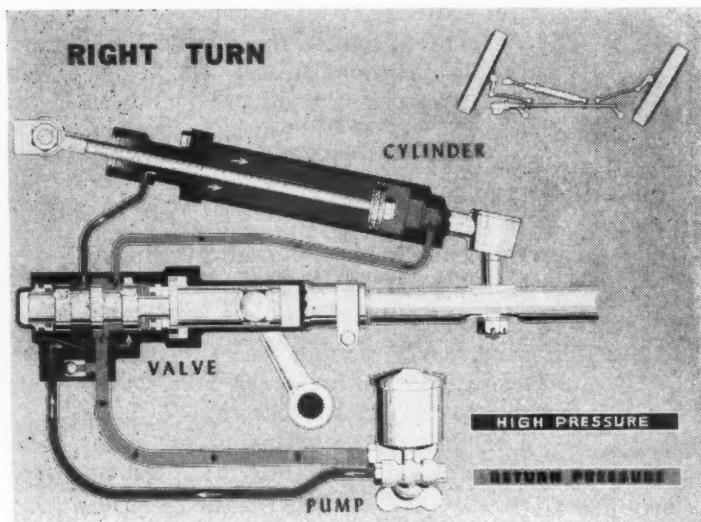


Right. Layout of the Bendix mechanism installed on a truck steering system.

Linkage Booster Power Steering Announced by Bendix

The Bendix mechanism will be factory equipment on several popular makes of cars

Note the control valve on the steering box. Below. This diagram shows the flow of fluid through the mechanism during a right turn. Three units, cylinder, valve and pump, comprise the system.



LINKAGE Type Power Steering equipment for commercial vehicles as well as passenger cars is announced by the Bendix Products Division, Bendix Aviation Corporation. According to Bendix this equipment will be installed in four different makes of production motor cars, including Packard and Nash who released the installation for 1953 production; and Ford who announced adoption of the device recently.

Installation of the power cylinder and control valve (not a field installation), can be made by the vehicle manufacturer without

(Continued on page 82)

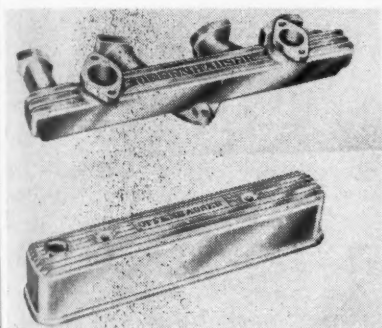
New

PRODUCTS SHOW WINDOW

FOR FURTHER INFORMATION USE POSTCARD FACING NEXT PAGE

372. Dual Manifold

Offenhauser Equipment Company: A dual carburetor intake manifold is now available for 1952 and 1953 Ford "6" overhead valve engines. This manifold is said to make it possible to have the ad-



vantages of better engine performance and equalized fuel distribution. The manifold comes shipped complete with installation kit including necessary gaskets, fuel lines, throttle linkage and installation instructions.

373. Penetrating Fluid

Supersite Corporation: Du-Oil is the name of a new, non-flammable, penetrating fluid which can be used for removing rusted nuts and bolts, freeing frozen and corroded parts, and as an anti-squeak for all rubber-to-metal action parts. It is said to be odorless and non-toxic.

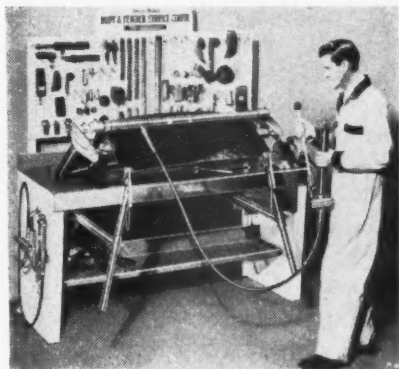
374. Auto Lamp Guide

Tung-Sol Electric, Inc.: The new Tung-Sol Guide is a comprehensive auto lamp service manual containing data on all makes of cars and trucks from 1938 through

1953. It contains a complete reference on how to troubleshoot signal systems and make flasher replacements. There are also illustrated instructions on how to aim, adjust and focus head lamps, and install sealed beam lamps and small lamps, both interior and exterior. The Guide measures 7½ inches by 10 inches and can be hung up as a wall chart.

375. Body Work Bench

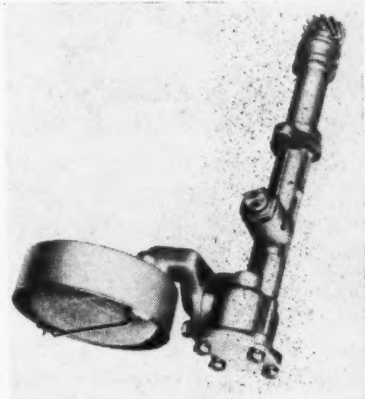
Blackhawk Mfg. Company: The Porto-Power Service Center for body and fender repairs is known as the Bench Rack, which is designed to help mechanics in reconditioning damaged body sections. The new bench rack incorporates a steel work bench with storage panels for all necessary body re-



pair equipment. Its adjustable clamping arms and anchoring bar hold removable body sections rigidly for all operations. The Porto-Power rams, attachments and other tools are immediately available. The Bench-Rack also provides a roomy storage shelf for mechanic's other tools.

376. Oil Pumps

Accurate Products, Inc.: The Accurate Oil Pump is offered to the trade as a replacement item. These oil pumps are said to be factory



duplicates of cast iron housing and precision cut gears. They are available for Ford, Chevrolet and Chrysler products.

377. Clip Remover

Douglass Tool Company: A lock clip remover has been designed for removing horseshoe spring lock clips that hold the inside door and window riser handles on General Motors, Ford and other cars. Described as the #125 Lock Clip Remover, Spring Type, the new tool is said to fit in the hand, leaving ample room between the hand and the upholstery panel for easy use. One end is for removing small lock clips and the opposite end is for the removal of large lock clips. It is claimed that the tool is made of high-grade spring steel and that it does not bend the clip out of shape. In use the points of the tool snap around the clip and hold it.

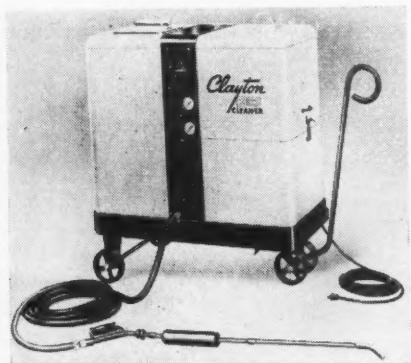
New Products Continued from Page 51

378. Charger Tester

Quick Charge, Inc.: Six individual cell testers make possible breakdown tests of both six and twelve volt batteries in a combination 6-12 volt battery charger and tester now on the market. Quick Charge announces its new portable charger and tester, with capacity for individual cell testing of both 6 and 12 volt batteries through the use of six individual cell meters. This new charger is available in three models. It may be used as a slow charger, gang charger or quick charger. Weighing 160 pounds, the machine is 16 inches wide, 16 inches deep and 36 inches high.

379. Steam Cleaner

Clayton Mfg. Company: A high capacity steam cleaning machine said to be capable of discharging 150 gallons of balanced cleaning solution per hour is known as the Model LH Clayton Kerrick-Steam Cleaner. The self contained unit offers a graduated range of cleaning pressures extending from 30 p.s.i. for such jobs as paint stripping, to 100 p.s.i. for rapid clean-

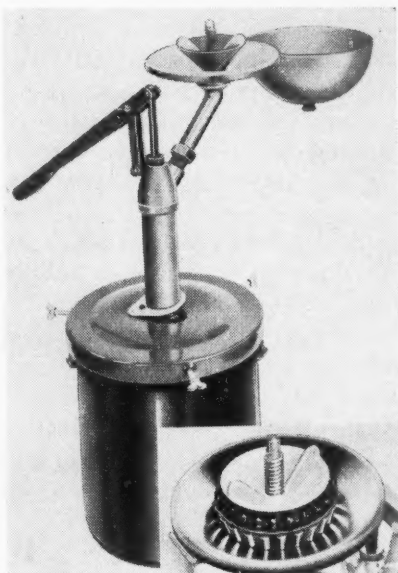


ing of heavily encrusted or grease coated parts and surfaces. Because full working pressure is attained in two minutes from a cold start, there is no need to keep the machine in operation on a standby basis. It may be turned on and off as the flow of work requires, thereby effecting an economy in operation. It is available in a number of models: oil fired and gas

fired; electrically driven and gasoline engine driven; portable, stationary or trailer.

380. Bearing Packer

The Gray Company, Inc.: A new heavy duty bearing packer that operates in original grease containers has been announced.



Known as the Presto-Pak, it eliminates the need for transferring grease from container to a separate reservoir. Therefore, the grease says clean all the way from the container to the bearing. It is designed to handle all bearings from $\frac{3}{4}$ inch ID to $7\frac{1}{2}$ inch OD. The hand operated pump is said to instantly supply a large volume of grease, which flushes out dirt and provides even grease pressure throughout the bearing. A pressure screw tightens fast by finger pressure to hold the bearing in place, with a few quick turns of the screw and the bearing is removed.

381. Washing Brush

Ransom Brush Co.: The Ransom window and car washing extension brush has a built-in automatic water-flow control and Shut-off valve in the handle. This swivel-action shut-off valve is made of aluminum screw machine parts

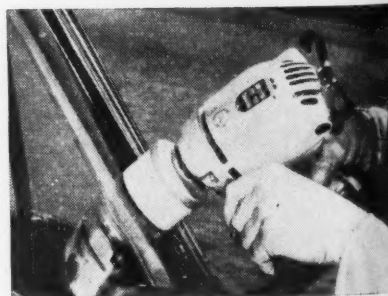
and is patterned after the design of a water faucet. A flick of the finger automatically gives any amount of water desired through jets in the brush head. The brush is designed to give a constant flow of clean water without splashing. The blended horsehair is said not to scratch the finest finish. The brush weighs less than one pound when extension is added to handle.

382. Safety Booklet

National Safety Council: "Working Together For Safety" is the title of the National Safety Council's new employee rules manual. The 32-page booklet contains instructions in safe work habits applicable to employees in most plants. Bound in heavy paper cover and printed in two colors, this booklet will serve as a permanent guide and reference for each employee.

383. Glass Polisher

Glass Center Enterprises: A portable polisher for removing light scratches from glass, together with supplies and directions for use, has been developed. The tool is powered with a universal AC or DC motor for 115 volt operation using 6 amps. A white wool felt polisher head three inches in diameter and $1\frac{3}{4}$ inches thick fits tightly into a machined adapter which screws onto the main drive shaft of the motor. A sample con-



tainer of cerium oxide and a tube of cement for mounting the polisher felt in the adapter come with the unit. The machine is said to be especially suitable for automotive service where it is necessary to remove scratches from windshields or windows. It is unnecessary to remove the glass since the machine can be brought right to the job and done in a minimum of time.

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384. Car Keys

The Brothers Company: Sterling silver ignition keys the top portion carrying car emblem in sterling silver, while the key part is a brass blank, is announced by the Brothers Company. Thirteen different car emblems are available. The Cadillac keys are also available in 14 karat gold.

385. Tool Catalog

Imperial Brass Mfg. Company: An eight-page catalog listing a complete line of tools for flaring, cutting and reaming tubing includes a double flaring tool for

use with brazed steel tubing such as that used on hydraulic brake lines. The catalog also lists various service aids including engine cleaners, spring oilers, drum faucets, air nozzles, and radiator water faucets.

386. Car Washer

The Weaver Mfg. Company: An automatic overhead car washer that is claimed to use only $\frac{1}{4}$ to $\frac{1}{2}$ ounce of detergent and less than 15 gallons of water per car has been introduced. The Weaver overhead automatic car washer features a single "Spray Arch" which contains a series of spray

nozzles and travels on an overhead track. Spray nozzles are spaced to deliver overlapping arcs of spray onto the vehicle at a low fixed pressure. Automatic operation of the car washer includes clear-water tempering spray, detergent and water application, variable time interval for hand sponging, and 4 clear-water rinsings.

387. Piston Ring Sets

Moog Industries, Inc.: The Moog 2-4-1 chrome piston ring set has been announced. The chrome faced steel segments, with slotted gray iron center piece and inner

More Info

on new products in this issue which are of special interest to you can be obtained by using the free post card at the right. Fill in your name, address and other information and circle the numbers of the new products which interest you. Tear out the card and drop it in the mail.

Here's How

you can pass your thoughts on Motor Age to its editors. Just write down the titles of the features you like best in this issue in the order of your preference. Then, in the next spaces, write in your ideas on making Motor Age more useful to you.

Postcard valid for 90 days only. Information may be obtained subsequently by letter, fully describing the item in question.

Frank P. Tighe, EDITOR MOTOR AGE
P. O. Box 76, Village Station, N. Y. 14, N. Y.

8/53

Please send me further information on the New Products, the code numbers of which I have circled below.

- | | | |
|------------------------|---------------------|-----------------------|
| 372. Dual Manifold | 379. Steam Cleaner | 386. Car Washer |
| 373. Penetrating Fluid | 380. Bearing Packer | 387. Piston Ring Set |
| 374. Auto Lamp Guide | 381. Washing Brush | 388. Tire Compound |
| 375. Body Work Bench | 382. Safety Booklet | 389. Cutting Pliers |
| 376. Oil Pumps | 383. Glass Polisher | 390. Spark Plug Chart |
| 377. Clip Remover | 384. Car Keys | 391. Parts Washer |
| 378. Charger Tester | 385. Tool Catalog | |

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8/53

We liked the following features in this issue of Motor Age:

1. _____
2. _____
3. _____

Here's how Motor Age can be more helpful to us:

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New Products Continued from Page 53

ring, make up the oil ring, which provides metered lubrication by controlling the oil, stops blowby and with chrome finish gives longer ring life.

388. Tire Compound

Norimrust Corporation: A new tire and rim compound under the trade name "Noworo" Norimrust is compounded in such a manner that rust and scale formation on

truck and bus rims is retarded, the presence of which has always been a hazard to the tire changer. Rust in the area of the detachable side and lock rings has resulted in many fatalities and serious bodily injuries. The use of Norimrust has the advantage of simplifying separation of the bead from the rim bead seat of the rim at time of dismounting, an economy of time which will be important to the operators and managers of

the average tire shop.

389. Cutting Pliers

Utica Drop Forge & Tool Corp. A new idea in pliers is the "cushion throat" now being introduced by the above company. The "cushion throat" insert acts as a "third hand" to hold the short end of the wire during and after cutting. The "cushion" is red Plasticol, bonded in the throat beside the pliers' cutting edges. As the pliers close, the Plasticol cushion grips the short end of the wire very tightly, holding as the cut is made. Generally, the pliers must be opened to release the cut wire end.

390. Spark Plug Chart

Auto-Lite Company: A spark plug specifications wall chart, containing listings for a dozen different types of engines and hundreds of individual engine models, has been completed by Auto-Lite. The wall chart features tips on installing and selling plugs. Categories included in the chart are American and European cars, trucks, buses, tractors, combines and other farm machinery, garden tractors and power mowers, marine engines, motorcycle and bicycle motors, and so forth.

391. Parts Washer

Kelite Products, Inc.: Quick cleaning of small parts, complete assemblies and tools is said to be made possible by a new air powered washer which has an oscillating turntable submerged in the cleaning solution. Parts to be cleaned are placed in a specially designed perforated basket which rides on the turntable, while complete assemblies can be placed directly on the turntable. Speed of the washer may be varied from 0 to 240 oscillations per minute by dialing the desired speed on the ¼ hp. air motor. The unit, which stands 30 inches high and weighs 170 pounds, has a splash proof cover.

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MANAGEMENT CLINIC

Sound Credit Secures Sales

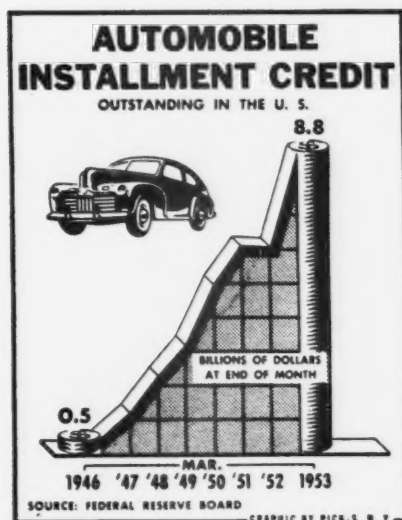
Claude S. Klugh, General Manager of the Penna. Automotive Assn., points out the value of using common sense in extending credit.

EVERY thinking dealer will agree that his credit sales are like a good horse. When it is properly managed, credit will do a vast amount of good work and will take the dealer where he wants to go, but if it is abused and mishandled, it will break down when the going gets tough and bring heavy loss or disaster to the careless individual who is holding the rein.

As the pull gets harder and the need for credit sales becomes greater, the wide and experienced dealer recognizes he must handle credits with increased judgment and care.

Pressures on sensible credit policies are created, primarily, by misguided, panicky efforts to sell used cars. This is not only a disservice to the customer, but also is bad business for the dealer and harmful to the nation's economy.

All of us know that most repossession are of used cars. During 1952, one of the large auto finance companies reported 12.5 repos-



sessions of used cars to every one new car repossession. And these were cars sold on sound credit terms. The figures would have been much more startling if this company had indulged in some of the loose credit practices all of us know exist in the automobile sales business.

When credit to buy a car is offered on a sensible basis, these advantages accrue to the dealer: (1) The car stays sold; (2) customer relations are protected; (3) the dealer's full profit on the transaction is assured; (4) chances of selling that customer another car are enhanced; (5) the reputation of the dealership is kept secure; (6) the reputation of the manufacturer and its product is safeguarded.

No business is sicker than the automobile business in a community where one or more dealers have over-sold credit and loaded large numbers of buyers with cars which they are

(Continued on page 84)

Torture Tests For Tires



Here's how tire makers punish their products to find any hidden weaknesses

Below. This directional skid trailer tests for tire traction and skid characteristics with wheel locked. Note the wet test surface.

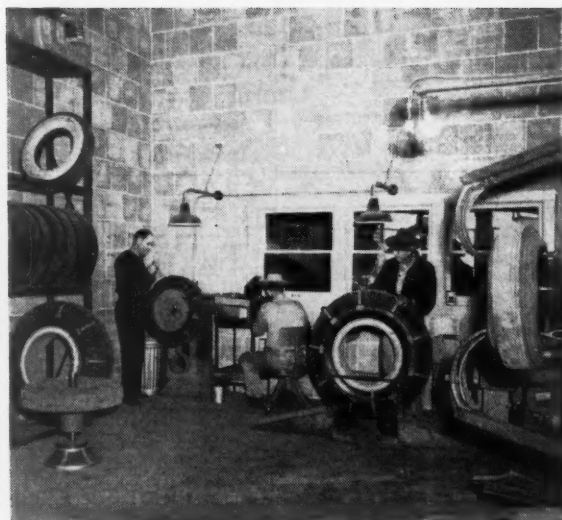


A HIGH-POWERED car roars down a hot highway, pushes into a gravel curve and disappears into the distance at 70 miles per hour. The car looks strange with its "wrought iron fence" grille guard and small wheels. This is a tire company's test car, running undersize tires (6.00-16 instead of 8.20-15). The cow-catcher is for protection against hitting stray cattle or deer during fast runs in the dark. As if these undersize tires weren't taking enough punishment on a heavy vehicle at high speeds, the car is weighted down with lead so that it is carrying 20 per cent overload. The road surface is rough and hot. In fact, it was chosen for test runs because of its varied surfaces, sun-seared straight-aways and lack of congestion. And just to be sure that the tires will take a beating, the driver stops the car, makes a few marks on

(Continued on page 74)

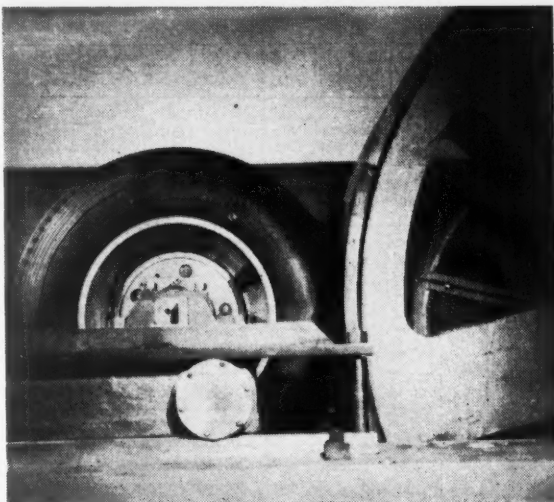


Above. Lead weights are used to put the right amount of overload at the correct point.



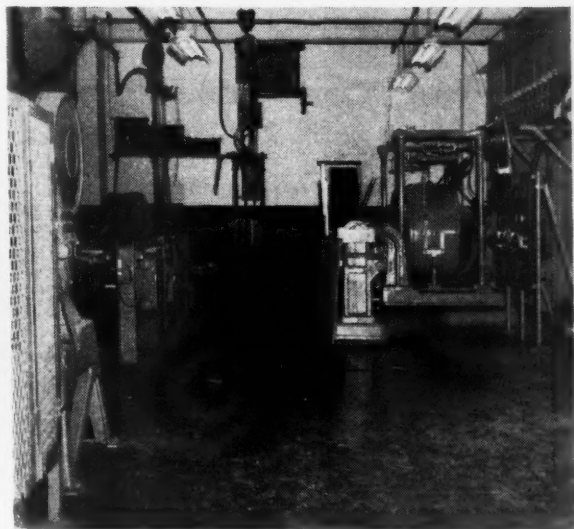
Upper right. Regular examinations of test tires are made to watch progress of wear and signs of failure.

Right. This tire, running at 100 mph underinflated and overloaded, was photographed on the test wheel at 1/15,000 sec.



by Arthur H. Nellen, Jr., Managing Editor

Below. Here's the corner of a dynamometer room in a tire company's laboratory. On the test wheel at the far left, a tire is being run until it blows out.



Below. Taking a test tire's temperature. The needle is inserted into the carcass at various points and the temperatures recorded on the gage.



Current Engine and Tune-up Specifications

MAKE AND MODEL	ENGINE					TUNE-UP DATA										STEERING											
	Wheelbase (In.)	No. of Cylinders, Bore and Stroke	Taxable H.P.	Piston Displacement (Cu. In.)	Maximum Brake H.P. (with Bare Engine) at Specified R.P.M.	Compression Ratio	Spark Plug Make and Type	Rings		VALVES						IGNITION				Caster (Deg.)	Camber (Deg.)	Toe-In (In.)	King Pin Inclination at Camber (Degrees)				
								No. and Width Compression	No. and Width Oil	Seat Angle	Operating Tapet Clearance		Inlet Valve Timing for Valve Timing	Deg. Inlet Opens Before or After T.C.	Timing Marks Located	Breaker Point Gap	Cam Angle (Deg.)	Spark Plug Gap	Timing					Cooling System Capacity (Qts.)			
											Exhaust	Intake							Timing Occurs						Timing Marks Located		
																										Stem Diameter (In.)	Exhaust
Buick..... V8, 40 V8, 50 V8, 70 Cadillac..... V8, 62 V8, 90 Dodge..... V8, 90 Chevrolet..... V8, 60 V8, 148 Chrysler..... V8, 2100 "400" V8, C-60 V8, C-56, C-59 De Soto..... V8, S-18 V8, S-16 Dodge..... V8, D-46, D-47 V8, D-44, D-48 Ford..... V8 Henry J..... V8 Hudson..... V8, 1C, 2C V8, 4C V8, 6C V8, 7C Laser..... V8, 531, 532 Lincoln..... V8 Mercury..... V8 Packard..... V8, 53101 V8, 53102 Widemoile..... V8, Deluxe V8, Super V8, 88 V8, 98 Packard..... V8, 2001 V8, 2631 V8, 2602, 2606 V8, 2626 Glymouth..... V8, P-24 Pontiac..... V8, P-25 Buickbakar..... V8, 4H V8, 4J V8, 4K V8, 4L V8, 4M V8, 4N V8, 4O V8, 4P V8, 4Q V8, 4R V8, 4S V8, 4T V8, 4U V8, 4V V8, 4W V8, 4X V8, 4Y V8, 4Z V8, 5A V8, 5B V8, 5C V8, 5D V8, 5E V8, 5F V8, 5G V8, 5H V8, 5I V8, 5J V8, 5K V8, 5L V8, 5M V8, 5N V8, 5O V8, 5P V8, 5Q V8, 5R V8, 5S V8, 5T V8, 5U V8, 5V V8, 5W V8, 5X V8, 5Y V8, 5Z V8, 6A V8, 6B V8, 6C V8, 6D V8, 6E V8, 6F V8, 6G V8, 6H V8, 6I V8, 6J V8, 6K V8, 6L V8, 6M V8, 6N V8, 6O V8, 6P V8, 6Q V8, 6R V8, 6S V8, 6T V8, 6U V8, 6V V8, 6W V8, 6X V8, 6Y V8, 6Z V8, 7A V8, 7B V8, 7C V8, 7D V8, 7E V8, 7F V8, 7G V8, 7H V8, 7I V8, 7J V8, 7K V8, 7L V8, 7M V8, 7N V8, 7O V8, 7P V8, 7Q V8, 7R V8, 7S V8, 7T V8, 7U V8, 7V V8, 7W V8, 7X V8, 7Y V8, 7Z V8, 8A V8, 8B V8, 8C V8, 8D V8, 8E V8, 8F V8, 8G V8, 8H V8, 8I V8, 8J V8, 8K V8, 8L V8, 8M V8, 8N V8, 8O V8, 8P V8, 8Q V8, 8R V8, 8S V8, 8T V8, 8U V8, 8V V8, 8W V8, 8X V8, 8Y V8, 8Z V8, 9A V8, 9B V8, 9C V8, 9D V8, 9E V8, 9F V8, 9G V8, 9H V8, 9I V8, 9J V8, 9K V8, 9L V8, 9M V8, 9N V8, 9O V8, 9P V8, 9Q V8, 9R V8, 9S V8, 9T V8, 9U V8, 9V V8, 9W V8, 9X V8, 9Y V8, 9Z V8, 10A V8, 10B V8, 10C V8, 10D V8, 10E V8, 10F V8, 10G V8, 10H V8, 10I V8, 10J V8, 10K V8, 10L V8, 10M V8, 10N V8, 10O V8, 10P V8, 10Q V8, 10R V8, 10S V8, 10T V8, 10U V8, 10V V8, 10W V8, 10X V8, 10Y V8, 10Z V8, 11A V8, 11B V8, 11C V8, 11D V8, 11E V8, 11F V8, 11G V8, 11H V8, 11I V8, 11J V8, 11K V8, 11L V8, 11M V8, 11N V8, 11O V8, 11P V8, 11Q V8, 11R V8, 11S V8, 11T V8, 11U V8, 11V V8, 11W V8, 11X V8, 11Y V8, 11Z V8, 12A V8, 12B V8, 12C V8, 12D V8, 12E V8, 12F V8, 12G V8, 12H V8, 12I V8, 12J V8, 12K V8, 12L V8, 12M V8, 12N V8, 12O V8, 12P V8, 12Q V8, 12R V8, 12S V8, 12T V8, 12U V8, 12V V8, 12W V8, 12X V8, 12Y V8, 12Z V8, 13A V8, 13B V8, 13C V8, 13D V8, 13E V8, 13F V8, 13G V8, 13H V8, 13I V8, 13J V8, 13K V8, 13L V8, 13M V8, 13N V8, 13O V8, 13P V8, 13Q V8, 13R V8, 13S V8, 13T V8, 13U V8, 13V V8, 13W V8, 13X V8, 13Y V8, 13Z V8, 14A V8, 14B V8, 14C V8, 14D V8, 14E V8, 14F V8, 14G V8, 14H V8, 14I V8, 14J V8, 14K V8, 14L V8, 14M V8, 14N V8, 14O V8, 14P V8, 14Q V8, 14R V8, 14S V8, 14T V8, 14U V8, 14V V8, 14W V8, 14X V8, 14Y V8, 14Z V8, 15A V8, 15B V8, 15C V8, 15D V8, 15E V8, 15F V8, 15G V8, 15H V8, 15I V8, 15J V8, 15K V8, 15L V8, 15M V8, 15N V8, 15O V8, 15P V8, 15Q V8, 15R V8, 15S V8, 15T V8, 15U V8, 15V V8, 15W V8, 15X V8, 15Y V8, 15Z V8, 16A V8, 16B V8, 16C V8, 16D V8, 16E V8, 16F V8, 16G V8, 16H V8, 16I V8, 16J V8, 16K V8, 16L V8, 16M V8, 16N V8, 16O V8, 16P V8, 16Q V8, 16R V8, 16S V8, 16T V8, 16U V8, 16V V8, 16W V8, 16X V8, 16Y V8, 16Z V8, 17A V8, 17B V8, 17C V8, 17D V8, 17E V8, 17F V8, 17G V8, 17H V8, 17I V8, 17J V8, 17K V8, 17L V8, 17M V8, 17N V8, 17O V8, 17P V8, 17Q V8, 17R V8, 17S V8, 17T V8, 17U V8, 17V V8, 17W V8, 17X V8, 17Y V8, 17Z V8, 18A V8, 18B V8, 18C V8, 18D V8, 18E V8, 18F V8, 18G V8, 18H V8, 18I V8, 18J V8, 18K V8, 18L V8, 18M V8, 18N V8, 18O V8, 18P V8, 18Q V8, 18R V8, 18S V8, 18T V8, 18U V8, 18V V8, 18W V8, 18X V8, 18Y V8, 18Z V8, 19A V8, 19B V8, 19C V8, 19D V8, 19E V8, 19F V8, 19G V8, 19H V8, 19I V8, 19J V8, 19K V8, 19L V8, 19M V8, 19N V8, 19O V8, 19P V8, 19Q V8, 19R V8, 19S V8, 19T V8, 19U V8, 19V V8, 19W V8, 19X V8, 19Y V8, 19Z V8, 20A V8, 20B V8, 20C V8, 20D V8, 20E V8, 20F V8, 20G V8, 20H V8, 20I V8, 20J V8, 20K V8, 20L V8, 20M V8, 20N V8, 20O V8, 20P V8, 20Q V8, 20R V8, 20S V8, 20T V8, 20U V8, 20V V8, 20W V8, 20X V8, 20Y V8, 20Z V8, 21A V8, 21B V8, 21C V8, 21D V8, 21E V8, 21F V8, 21G V8, 21H V8, 21I V8, 21J V8, 21K V8, 21L V8, 21M V8, 21N V8, 21O V8, 21P V8, 21Q V8, 21R V8, 21S V8, 21T V8, 21U V8, 21V V8, 21W V8, 21X V8, 21Y V8, 21Z V8, 22A V8, 22B V8, 22C V8, 22D V8, 22E V8, 22F V8, 22G V8, 22H V8, 22I V8, 22J V8, 22K V8, 22L V8, 22M V8, 22N V8, 22O V8, 22P V8, 22Q V8, 22R V8, 22S V8, 22T V8, 22U V8, 22V V8, 22W V8, 22X V8, 22Y V8, 22Z V8, 23A V8, 23B V8, 23C V8, 23D V8, 23E V8, 23F V8, 23G V8, 23H V8, 23I V8, 23J V8, 23K V8, 23L V8, 23M V8, 23N V8, 23O V8, 23P V8, 23Q V8, 23R V8, 23S V8, 23T V8, 23U V8, 23V V8, 23W V8, 23X V8, 23Y V8, 23Z V8, 24A V8, 24B V8, 24C V8, 24D V8, 24E V8, 24F V8, 24G V8, 24H V8, 24I V8, 24J V8, 24K V8, 24L V8, 24M V8, 24N V8, 24O V8, 24P V8, 24Q V8, 24R V8, 24S V8, 24T V8, 24U V8, 24V V8, 24W V8, 24X V8, 24Y V8, 24Z V8, 25A V8, 25B V8, 25C V8, 25D V8, 25E V8, 25F V8, 25G V8, 25H V8, 25I V8, 25J V8, 25K V8, 25L V8, 25M V8, 25N V8, 25O V8, 25P V8, 25Q V8, 25R V8, 25S V8, 25T V8, 25U V8, 25V V8, 25W V8, 25X V8, 25Y V8, 25Z V8, 26A V8, 26B V8, 26C V8, 26D V8, 26E V8, 26F V8, 26G V8, 26H V8, 26I V8, 26J V8, 26K V8, 26L V8, 26M V8, 26N V8, 26O V8, 26P V8, 26Q V8, 26R V8, 26S V8, 26T V8, 26U V8, 26V V8, 26W V8, 26X V8, 26Y V8, 26Z V8, 27A V8, 27B V8, 27C V8, 27D V8, 27E V8, 27F V8, 27G V8, 27H V8, 27I V8, 27J V8, 27K V8, 27L V8, 27M V8, 27N V8, 27O V8, 27P V8, 27Q V8, 27R V8, 27S V8, 27T V8, 27U V8, 27V V8, 27W V8, 27X V8, 27Y V8, 27Z V8, 28A V8, 28B V8, 28C V8, 28D V8, 28E V8, 28F V8, 28G V8, 28H V8, 28I V8, 28J V8, 28K V8, 28L V8, 28M V8, 28N V8, 28O V8, 28P V8, 28Q V8, 28R V8, 28S V8, 28T V8, 28U V8, 28V V8, 28W V8, 28X V8, 28Y V8, 28Z V8, 29A V8, 29B V8, 29C V8, 29D V8, 29E V8, 29F V8, 29G V8, 29H V8, 29I V8, 29J V8, 29K V8, 29L V8, 29M V8, 29N V8, 29O V8, 29P V8, 29Q V8, 29R V8, 29S V8, 29T V8, 29U V8, 29V V8, 29W V8, 29X V8, 29Y V8, 29Z V8, 30A V8, 30B V8, 30C V8, 30D V8, 30E V8, 30F V8, 30G V8, 30H V8, 30I V8, 30J V8, 30K V8, 30L V8, 30M V8, 30N V8, 30O V8, 30P V8, 30Q V8, 30R V8, 30S V8, 30T V8, 30U V8, 30V V8, 30W V8, 30X V8, 30Y V8, 30Z V8, 31A V8, 31B V8, 31C V8, 31D V8, 31E V8, 31F V8, 31G V8, 31H V8, 31I V8, 31J V8, 31K V8, 31L V8, 31M V8, 31N V8, 31O V8, 31P V8, 31Q V8, 31R V8, 31S V8, 31T V8, 31U V8, 31V V8, 31W V8, 31X V8, 31Y V8, 31Z V8, 32A V8, 32B V8, 32C V8, 32D V8, 32E V8, 32F V8, 32G V8, 32H V8, 32I V8, 32J V8, 32K V8, 32L V8, 32M V8, 32N V8, 32O V8, 32P V8, 32Q V8, 32R V8, 32S V8, 32T V8, 32U V8, 32V V8, 32W V8, 32X V8, 32Y V8, 32Z V8, 33A V8, 33B V8, 33C V8, 33D V8, 33E V8, 33F V8, 33G V8, 33H V8, 33I V8, 33J V8, 33K V8, 33L V8, 33M V8, 33N V8, 33O V8, 33P V8, 33Q V8, 33R V8, 33S V8, 33T V8, 33U V8, 33V V8, 33W V8, 33X V8, 33Y V8, 33Z V8, 34A V8, 34B V8, 34C V8, 34D V8, 34E V8, 34F V8, 34G V8, 34H V8, 34I V8, 34J V8, 34K V8, 34L V8, 34M V8, 34N V8, 34O V8, 34P V8, 34Q V8, 34R V8, 34S V8, 34T V8, 34U V8, 34V V8, 34W V8, 34X V8, 34Y V8, 34Z V8, 35A V8, 35B V8, 35C V8, 35D V8, 35E V8, 35F V8, 35G V8, 35H V8, 35I V8, 35J V8, 35K V8, 35L V8, 35M V8, 35N V8, 35O V8, 35P V8, 35Q V8, 35R V8, 35S V8, 35T V8, 35U V8, 35V V8, 35W V8, 35X V8, 35Y V8, 35Z V8, 36A V8, 36B V8, 36C V8, 36D V8, 36E V8, 36F V8, 36G V8, 36H V8, 36I V8, 36J V8, 36K V8, 36L V8, 36M V8, 36N V8, 36O V8, 36P V8, 36Q V8, 36R V8, 36S V8, 36T V8, 36U V8, 36V V8, 36W V8, 36X V8, 36Y V8, 36Z V8, 37A V8, 37B V8, 37C V8, 37D V8, 37E V8, 37F V8, 37G V8, 37H V8, 37I V8, 37J V8, 37K V8, 37L V8, 37M V8, 37N V8, 37O V8, 37P V8, 37Q V8, 37R V8, 37S V8, 37T V8, 37U V8, 37V V8, 37W V8, 37X V8, 37Y V8, 37Z V8, 38A V8, 38B V8, 38C V8, 38D V8, 38E V8, 38F V8, 38G V8, 38H V8, 38I V8, 38J V8, 38K V8, 38L V8, 38M V8, 38N V8, 38O V8, 38P V8, 38Q V8, 38R V8, 38S V8, 38T V8, 38U V8, 38V V8, 38W V8, 38X V8, 38Y V8, 38Z V8, 39A V8, 39B V8, 39C V8, 39D V8, 39E V8, 39F V8, 39G V8, 39H V8, 39I V8, 39J V8, 39K V8, 39L V8, 39M V8, 39N V8, 39O V8, 39P V8, 39Q V8, 39R V8, 39S V8, 39T V8, 39U V8, 39V V8, 39W V8, 39X V8, 39Y V8, 39Z V8, 40A V8, 40B V8, 40C V8, 40D V8, 40E V8, 40F V8, 40G V8, 40H V8, 40I V8, 40J V8, 40K V8, 40L V8, 40M V8, 40N V8, 40O V8, 40P V8, 40Q V8, 40R V8, 40S V8, 40T V8, 40U V8, 40V V8, 40W V8, 40X V8, 40Y V8, 40Z V8, 41A V8, 41B V8, 41C V8, 41D V8, 41E V8, 41F V8, 41G V8, 41H V8, 41I V8, 41J V8, 41K V8, 41L V8, 41M V8, 41N V8, 41O V8, 41P V8, 41Q V8, 41R V8, 41S V8, 41T V8, 41U V8, 41V V8, 41W V8, 41X V8, 41Y V8, 41Z V8, 42A V8, 42B V8, 42C V8, 42D V8, 42E V8, 42F V8, 42G V8, 42H V8, 42I V8, 42J V8, 42K V8, 42L V8, 42M V8, 42N V8, 42O V8, 42P V8, 42Q V8, 42R V8, 42S V8, 42T V8, 42U V8, 42V V8, 42W V8, 42X V8, 42Y V8, 42Z V8, 43A V8, 43B V8, 43C V8, 43D V8, 43E V8, 43F V8, 43G V8, 43H V8, 43I V8, 43J V8, 43K V8, 43L V8, 43M V8, 43N V8, 43O V8, 43P V8, 43Q V8, 43R V8, 43S V8, 43T V8, 43U V8, 43V V8, 43W V8, 43X V8, 43Y V8, 43Z V8, 44A V8, 44B V8, 44C V8, 44D V8, 44E V8, 44F V8, 44G V8, 44H V8, 44I V8, 44J V8, 44K V8, 44L V8, 44M V8, 44N V8, 44O V8, 44P V8, 44Q V8, 44R V8, 44S V8, 44T V8, 44U V8, 44V V8, 44W V8, 44X V8, 44Y V8, 44Z V8, 45A V8, 45B V8, 45C V8, 45D V8, 45E V8, 45F V8, 45G V8, 45H V8, 45I V8, 45J V8, 45K V8, 45L V8, 45M V8, 45N V8, 45O V8, 45P V8, 45Q V8, 45R V8, 45S V8, 45T V8, 45U V8, 45V V8, 45W V8, 45X V8, 45Y V8, 45Z V8, 46A V8, 46B V8, 46C V8, 46D V8, 46E V8, 46F V8, 46G V8, 46H V8, 46I V8, 46J V8, 46K V8, 46L V8, 46M V8, 46N V8, 46O V8, 46P V8, 46Q V8, 46R V8, 46S V8, 46T V8, 46U V8, 46V V8, 46W V8, 46X V8, 46Y V8, 46Z V8, 47A V8, 47B V8, 47C V8, 47D V8, 47E V8, 47F V8, 47G V8, 47H V8, 47I V8, 47J V8, 47K V8, 47L V8, 47M V8, 47N V8, 47O V8, 47P V8, 47Q V8, 47R V8, 47S V8, 47T V8, 47U V8, 47V V8, 47W V8, 47X V8, 47Y V8, 47Z V8, 48A V8, 48B V8, 48C V8, 48D V8, 48E V8, 48F V8, 48G V8, 48H V8, 48I V8, 48J V8, 48K V8, 48L V8, 48M V8, 48N V8, 48O V8, 48P V8, 48Q V8, 48R V8, 48S V8, 48T V8, 48U V8, 48V V8, 48W V8, 48X V8, 48Y V8, 48Z V8, 49A V8, 49B V8, 49C V8, 49D V8, 49E V8, 49F V8, 49G V8, 49H V8, 49I V8, 49J V8, 49K V8, 49L V8, 49M V8, 49N V8, 49O V8, 49P V8, 49Q V8, 49R V8, 49S V8, 49T V8, 49U V8, 49V V8, 49W V8, 49X V8, 49Y V8, 49Z V8, 50A V8, 50B V8, 50C V8, 50D V8, 50E V8, 50F V8, 50G V8, 50H V8, 50I V8, 50J V8, 50K V8, 50L V8, 50M V8, 50N V8, 50O V8, 50P V8, 50Q V8, 50R V8, 50S V8, 50T V8, 50U V8, 50V V8, 50W V8, 50X V8, 50Y V8, 50Z V8, 51A V8, 51B V8, 51C V8, 51D V8, 51E V8, 51F V8, 51G V8, 51H V8, 51I V8, 51J V8, 51K V8, 51L V8, 51M V8, 51N V8, 51O V8, 51P V8, 51Q V8, 51R V8, 51S V8, 51T V8, 51U V8, 51V V8, 51W V8, 51X V8, 51Y V8, 51Z V8, 52A V8, 52B V8, 52C V8, 52D V8, 52E V8, 52F V8, 52G V8, 52H V8, 52I V8, 52J V8, 52K V8, 52L V8, 52M V8, 52N V8, 52O V8, 52P V8, 52Q V8, 52R V8, 52S V8, 52T V8, 52U V8, 52V V8, 52W V8, 52X V8, 5																											

ABBREVIATIONS

*—Powerglide chassis model available at extra cost.
†—Hydramatic chassis model available at extra cost.
(a)—121½; 125½. (b)—Off seat.
(c)—14B when hydraulic lifters are used.

5000

edan,
N. Y.
Club C
edan,
Newpor
env. C
Cust.
edan,
Newpor
own L
Crow
edan.
imous
+ Pri

(e)—Series 40, 13½; Series 50, 18 when combined with Durofontons

(f)—Top ring $3\frac{3}{4}$ "; second ring $1\frac{1}{8}$ ".
 (g)—New Yorker 125 $\frac{1}{2}$ "; Cust Imp. 131 $\frac{1}{2}$ "; Crown Imp. 145 $\frac{1}{2}$ ".
 (h)—Left side to be $\frac{1}{4}$ " to $\frac{1}{8}$ " higher than mission.

right side, within these limits.

HRYS
Wind
Club C
edan,
Twn. a
edan,
Wind.
edan,
Newpor
Conv. (

j) — Upper \mathbf{r}_k^j ; lower \mathbf{r}_k^j .
 l) — With heat

k) — With heater.
m) — AL-A5; CH-J8; AC-46-5.
n) — 2502, 25; 2506, 27.
p) — 7.0 with std. trans.; 7.5 with auto.
trans.
q) — Top— $\frac{1}{2}$; bottom— $\frac{1}{4}$.

$$r = 14^{\circ} - 16^{\circ}.$$

HEVF
Speci
Bus. C
Sedan,
Club C
Sedan,
Station

De L
Sedan,
Club C
Sedan,
Sport C
Conver
Station
Sta. W

Rel. A

—C56 58-5-614; C50-614-8

0-56, 58-5-61/2, C59-61/2-8.
 0-115-3800 with std. trans.; 118-3800
 with Hydra.
 0-118-3600 with std. trans.; 122-3600
 with Hydra.
 0-7-0 with std. trans.; 7-7 with Hydra.

0—6.8 with std. trans.; 7.7 with Hydra.

ADIL
Serie
Coupe
Sedan
Coupe
Conv.
Eldora
Serie
Sedan
Serie
Sedan

y) — .018 opening; .020 closing.

Z—003 opening; 005 closing.
A—After. **AA**—Automatic adjustment.
C—AC Spark Plug Co.
L—The Electric Autolite Co.
B—Before. **C**—Cold.
R—Crankshaft balancer.

H—Champion Spark Plug Co.

QUICK
Speci
Sedan
Sedan
Rivier
Conv.

Super
Rivra.
Rivra.
Conv.
Est. W

DC—Damper timing cover.
Fly—Flywheel

P—Crankshaft fan drive pulley
H—Hot
N—Negative
C—Top center
P—Positive

PTS—Valve train solid.

—

Current Passenger Car Price, Weight and Body Table

Following are prices at factory for cars with standard equipment as of July 27, 1953
State or local taxes, transportation and finance charges and optional equipment are extra.

BODY MAKE AND MODEL	List Price at Factory without Federal Taxes				Shipping Weight	BODY MAKE AND MODEL	List Price at Factory without Federal Taxes				Shipping Weight	BODY MAKE AND MODEL	List Price at Factory without Federal Taxes				Shipping Weight
	Delivered Price at Factory including Federal Taxes	Federal Taxes and Handling Charges	Federal Taxes	Federal Taxes			Delivered Price at Factory including Federal Taxes	Federal Taxes and Handling Charges	Federal Taxes	Federal Taxes			Delivered Price at Factory including Federal Taxes	Federal Taxes and Handling Charges	Federal Taxes	Federal Taxes	
BUICK																	
Special 40	2010	189	2199	3675		Powermaster 6	2166	168	2334	3480		Manhattan	2395	202	2597	3235	
Sedan, DeL., 2d	2064	191	2255	3710		Club Coupe	2186	170	2356	3535		Club Sedan	2444	206	2650	3265	
Riviera, DeL., 4d	2102	193	2295	3705		Sedan, 4d, 6p	2417	187	2604	3585		Sedan, 4d	2542	213	2755		
Conv. Cpe.	2343	210	2553	3815		Sportsman	2857	221	3078	3845		Traveler, 4d					
						Stat. Wagon	3018	233	3251	4080		DeLuxe					
						Sedan, 4d, 8p						Club Sedan	2267	192	2459	3150	
Super 50												Sedan, 4d	2317	196	2513	3200	
Rivra, Cpe., 2d	2387	224	2611	3845		Firedome 8	2433	188	2621	3655		Traveler	2315	204	2619		
Rivra, Sed., 4d	2466	230	2696	3905		Club Coupe	2453	190	2643	3720		Dragon					
Conv. Cpe., 2d	2751	251	3002	4035		Sedan, 4d, 6p	2685	207	2892	3740		Hardtop	3628	296	3924	3320	
Est. Wagon, 4d	3149	281	3430	4150		Sportsman	2891	223	3114	3990		LINCOLN					
						Conv. Coupe	3111	240	3351	3995		Cosmopolitan	3226		4135		
Oldsmobile 70						Stat. Wagon	3276	253	3529	4270		Sedan, 4d	3322		4155		
Rivra, Sed., 4d	2971	283	3254	4100		Sedan, 8p						Capri	3453		4150		
Rivra, Cpe., 2d	3068	290	3358	4125		DODGE†						Sedan, 4d	3549		4165		
Conv. Cpe., 2d	3205	301	3506	4250		Midwaybrk. Spec.	1816	142	1958	3100		Hardtop	3699		4310		
Est. Wagon, 4d	3694	337	4031	4315		Club Coupe	1855	145	2000	3196		Convertible					
Skylark Spt., 2d	4596	404	5000	4315		Sedan, 4d						MERCURY					
CADILLAC																	
Series 62						Meadowbrk.	1927	150	2077	3085		Custom					
Coupe	3295	276	3571	4230		Club Coupe	1954	152	2106	3175		Sedan, 2d	2004		3405		
Coupe De Ville	3384	282	3666	4225		Sedan, 4d	1958	153	2111	3220		Sedan, 4d	2057		3450		
Conv. Coupe	3691	304	3995	4320		Suburban	2019	157	2176	3190		Sport Coupe	2117		3465		
Eldorado	3830	314	4144	4500		Coronet 6	1933	151	2084	3155		Monterey					
	7196	554	7750			Club Coupe	1958	153	2111	3220		Sedan, 4d	2133		3425		
Series 60						Sedan						Coupe	2244		3465		
Sedan	3969	336	4305	4415		Coronet 8	2039	159	2198	3325		Convertible	2390		3585		
						Club Coupe	2059	160	2219	3385		Station Wagon	2591		3765		
Series 75						Sedan, 4d	2190	170	2360	3310		NASH					
Sedan	4988	420	5408	4830		Diplomat	2314	180	2494	3480		Rambler Super	1841	162	2003	2555	
Imperial	5188	433	5621			Conv. Coupe	2322	180	2502	3425		Suburban					
						Sierra					Custom						
CHEVROLET																	
Special 1500						Mainline 6	1400	122	1522	2977		Stat. Wagon	1951		2119	2570	
Bus, Coupe	1395	129	1524	3140		Bus, Coupe	1497	130	1627	3057		Country Club	1955		2125	2550	
Sedan, 2d	1479	134	1613	3180		Tudor	1542	133	1675	3105		Conv. Sedan	1980		2150	2590	
Club Coupe	1485	135	1620	3140		Fordor	1846	158	2004	3294		States'n Sup.					
Sedan, 4d	1530	140	1670	3215		Ranch Wagon						Sedan, 2d	1966	178	2144	3025	
Station Wagon	1845	165	2010	3420		Customline 6	1582	137	1719	3067		Sedan, 4d	2000	178	2178	3045	
						Tudor	1591	137	1728	3046		States'n Cust.	2121	188	2309	3050	
De Luxe 2100						Club Coupe	1628	140	1768	3115		Sedan, 2d	2144	188	2332	3070	
Sedan, 2d	1564	143	1707	3215		Fordor						C.C. Sedan, 2d	2237	196	2433	3095	
Club Coupe	1581	145	1726	3190		Mainline 8	1471	128	1599	3058		Amb. Super	2314	207	2521	3410	
Sedan, 4d	1615	146	1761	3250		Bus, Coupe	1567	135	1702	3126		Sedan, 2d	2350	207	2557	3430	
Sport Coupe	1805	162	1967	3295		Tudor	1613	138	1751	3171		Amb. Cust.	2477	218	2695	3450	
Convertible	1921	172	2093	3435		Fordor	1917	163	2080	3406		Sedan, 4d	2498	218	2716	3480	
Station Wagon	1950	173	2123	3450		Ranch Wagon						C.C. Sedan, 2d	2602	227	2829	3550	
Sta. Wagon, St.	2090	183	2273	3495		Customline 8						OLDSMOBILE					
						Club Coupe	1662	142	1804	3121		DeLuxe 88					
Bel Air 2400						Tudor	1853	141	1994	3133		Sedan, 2d	2066	196	2262	3603	
Sedan, 2d	1669	151	1820	3230		Fordor	1698	145	1843	3193		Sedan, 4d	2126	201	2327	3642	
Sedan, 4d	1720	154	1874	3275		Country Sed.	2076	176	2252	3539		Super 88					
Sport Coupe	1883	168	2051	3310		Crestline 8	1941	164	2105	3250		Sedan, 4d	2189	206	2395	3628	
Convertible	1998	177	2175	3470		Victoria	2043	172	2215	3334		Holiday	2252	210	2462	3673	
						Sunliner	2203	185	2388	3609		Conv. Coupe	2448	225	2673	3661	
CHRYSLER†																	
Windsor 6						Country Sq.						Amb. Super	2615	238	2853	3905	
Club Coupe	2266	176	2442	3600		HENRY J						Fiesta Cpe.	25275	234	2786	4453	
Sedan, 4d, 6p	2285	177	2462	3660		Corsair	1286	113	1399	2395		Holiday	2552	251	3022	3893	
Twn. and City	3026	233	3259	3960		Sedan, 2d	1437	124	1561	2445		Conv. Coupe	2771	266	3229	4119	
Sedan, 4d, 8p	3160	243	3403	4170		DeL. Sed., 2d						PACKARD					
						HUDSON						Clipper Line					
Wind. DeL. 8						Jet	1685	173	1858	2650		Club Sedan, 2d	2334	200	2534	3700	
Sedan, 4d	2498	193	2691	3775		Super Jet	1775	179	1954	2700		Sedan, 4d, 6p	2384	204	2588	3730	
Newport	2781	214	2995	3775		Sedan, 4d						Sporster Cpe.	2577	218	2795		
Conv. Coupe	2987	230	3217	4005		Wasp	2063	201	2264	3350		Clipper DeL.					
						Sedan, 2d	2106	205	2311	3380		Club Sedan, 2d	2471	210	2681		
New Yorker 8						Club Coupe	2106	205	2311	3340		Sedan, 4d, 6p	2521	214	2735		
Club Coupe	2897	223	3120	3925		Super Wasp	2203	210	2413	3460		Packard Line					
Sedan, 4d, 6p	2924	225	3149	4005		Sedan, 2d	2252	214	2466	3480		Club Sedan, 2d	2334	200	2534	3700	
Newport	3238	249	3487	4020		Sedan, 4d	2252	214	2466	3455		Sedan, 4d, 6p	2384	204	2588	3730	
Twn. and City	3620	278	3898	4265		Hollywood	2573	239	2812	3525		Sporster Cpe.	2577	218	2795		
Sedan, 4d, 8p	4026	308	4334	4510		Conv. Brghm.	2792	256	3046			Clipper DeL.					
						Hornet						Club Sedan, 2d	2471	210	2681		
N. Y. DeL. 8						Club Coupe	2505	237	2742	3530		Sedan, 4d, 6p	2521	214	2735		
Club Cpe.	3030	233	3263	3925		Sedan, 4d	2529	240	2769	3570		Packard Line					
Sedan, 4d, 6p	3057	235	3282	4025		Hollywood	2833	262	3095	3610		Sed. Cavlr., 4d	2975	259	3234	3975	
Newport	3392	261	3653	4223		Conv. Brghm.	3061	281	3342	3760		Cpe. Mayfair	3006	262	3268	3905	
Conv. Coupe	3664	281	3945	4295													
Cust. Imp. 8																	
Sedan, 4d, 6p	3925	320	4245	4305													
Newport	4205	320	4525	4290													
Town Limo.	4425			4525													
Crown Imp. 8																	
Sedan, 4d	6406			5235													
Limousine	6520			5275													

*Prices do not include delivery and handling charges.

Pop Pulls a Customer

Between his crazy temperature gage and his mixed-up coffee cartons, Jim had everyone in a stew, all the way from Barnaby's diner to Pop O'Neill's shop

JIM BARNABY, of Barnaby's diner (the home of quick, good lunches according to Barnaby) gave the counter a swipe with his last towel. He looked up mournfully through thick glasses when Pop strolled in and selected a clean spot near the door.

"Lo, Pop. Was hoping you'd come in."

"Jim, you look like the last petunia in a pansy bed this morning. What's the trouble?"

"Well, Pop, now that you've asked me, business is no good. This diner business is all shot. 'Bout ready to sell out."

"Sorry, Jim, but I don't know a thing about the diner business. I thought you said you had some car trouble?"

"Got that too. What-a-you-have, Pop?" and Jim shunted the mustard down the counter like a billiard ball. It hit the sugar bowl three stools down and ricocheted into position.

"Oh, just a cup a coffee. Light. No sugar. What's the beef, Jim?" Pop leaned over the counter resignedly wishing he had saved those ear plugs from last summer's vacation.

Jim turned to the urn. "You've put your finger right on it. It's people like you who are so persnickety in their coffee tastes. Now come ten o'clock there will be office boys, secretaries, and mechanics coming in here ordering coffee



Pop O'Neill



for hundreds of people—and no two want the same thing it seems. The girl (and he nodded toward the waitress) can't keep the orders straight. And nobody gets the right coffee."

"Well, Jim, get your finger out of my cup and tell me about your car troubles now." Pop said eyeing the greasy mug heading toward his lap.

"It's this way—Oh," he interrupted turning

Out of the Red



Turning to Pop, Jim picked up a pencil and drew twelve circles on a napkin. "Here's the way it ought to be done . . ."

toward the waitress. "Pick up your goose liver, Miriam. The customer is waiting."

"You see, Pop, people come in here and order four coffees, twelve coffees, sometimes as many as twenty. Now we might get an order like—say a customer orders twelve cartons. Two with cream, four with sugar, three black and the rest with cream and sugar. Now the girl sets out the cartons, marks them to order, but some-

where along the line, she gets all fouled up. First thing I know the customer is going to the automat. Now where will I be if they start that?"

"You say you've got overheating problems, Jim," Pop attempted to steer the conversation back to business—his business.

"Yes, I have, now that you ask me. Oh,
(Continued on page 116)



by Jack Montgomery, Technical Editor

- Pontiac Hydra-Matic Burns Points
- Converting '49 Olds Engine to '53
- Chrysler Pulls to Left on Braking
- Starter Locks; Shaft May Be Bent
- Ford V-8 Pump Won't Replenish Gas
- Locating Noisy Valves on Chrysler
- '42 Pontiac Keeps Breaking Pistons

Pontiac Hydra-Matic Burns Points Every 3000 Miles

I read the solutions to car problems every month and like them very much and would like to ask you one about my car.

I have a 1952 Pontiac, Hydra-Matic Eight, Chieftan Deluxe 4-door, and this car seems to burn points up in the excess of one set about every 3000 miles or oftener. Especially if on a trip running at high speeds. Have checked the following: coil, condenser, voltage regulator. Have installed a mal-lory dual breaker point conversion kit with no help. Have tried setting the points wider and narrower than the specified .015. Have tried a hot coil as well as a hot condenser. Have installed the most expensive as well as the cheapest set that you can buy. Still no help. The points seem to be getting too hot a spark, especially at high speed. At low speed, points last about 3000 miles and at high speed the average is about 1500 miles before missing.

Have set the spark advance faster and slower and still no help. Plugs seem not to burn at all so I assume that the output of fire to the plugs is normal but it seems to have too hot a spark to the breaker points.

Could you inform me what to do to prevent this trouble, or tell me what else to check?

C. H. Powers
A. C. Powers Garage
Mt. Sidney, Va.

IT seems to me that the trouble on this job is in the engine ground. I would suggest removing the present ground and making sure it has a good contact, or even adding an additional one between the engine and the frame.

Also, make sure that the regulator is set properly. As you know, this job should be set about 7.4 at the most. I believe that if you take care of the ground and set the regulator properly you shouldn't have any more trouble with the distributor burning points.

READERS' C

TROUBLE S

Converting '49 Olds Engine to '53 for More Power

I have a 1949 Oldsmobile "88" on which I am trying to increase the horsepower. I have heard it was possible to convert my '49 engine into a '53. If this is true, could you inform me how to go about it?

C. R. Hayes
Miami, Florida

THIS can be done but it will be expensive to convert your 1949 Oldsmobile "88" into a 1953. It will require installing a new 1953 camshaft complete with rocker arms and valve operating mechanism. Also the piston should be changed to the new type with thick heads. Then, of course, the new manifolds and four barrel carburetor should also be installed.

'48 Chrysler Pulls to Left When Brakes Are Applied

I am having trouble on a 1948 Chrysler Windsor. The following is a list of things I have done in an attempt to remedy the car from pulling to the left when the brakes are applied:

Trued Drums—same size.
New Lining—circle ground.
New Hoses—new cylinder kits.
New steel line from junction block at left front corner of frame to right front wheel.
Wheels aligned—front suspension all good.

This is the first one that I have had trouble with and I have heard of no others. Any information will be greatly appreciated.

Leo Gallo
Leo's Wheel & Brake Shop
Vallejo, Calif.

ON your 1948 Chrysler which is pulling to the left when the brakes are applied, I would suggest that you check the play in the steer-

CLEARING HOUSE

SHOOTING PROBLEMS

ing box as I have experienced a few of these where excess play caused pull.

Also, I suggest switching the right drum with the left drum. This sometimes will take care of that condition. If these above corrections do not take care of your trouble, I would then suggest taking about an inch off your secondary shoe; this will cut down on your braking effort of that one wheel.

Replaced Ring Gear Fails To Stop Starter Locking

I have a customer's car on which the starter keeps locking. I have replaced the ring gear twice and the starter once and have had the starter off a number of times. Any suggestions that you may have to offer would certainly be appreciated.

E. W. Haddon
O'Neal Motors
Marysville, Kan.

ON this job where the starter jams, I would suggest that you remove the armature and check the shaft, for it may be bent.

Also, make sure the mounting holes in the housing are not elongated and that they fit flush against the housing.

Ford V-8 Carburetor Dries Despite Three Replacements

I have a 1951 Ford V-8 with a vacuum pump that won't start after sitting for 24 hours or longer. Up to that time it starts all right. The gas gets out of the carburetor and the pump won't replenish it by using the starter. I poured a little gas into the air intake and it started all right.

To date, I have had one new and three rebuilt carburetors on it but

no change. There are no visible leaks and it never starts as though the gas were leaking down into the manifold. Any help you can offer will certainly be appreciated.

Herd Motor Co.
Pewee Valley, Ky.

SINCE it takes 24 hours for the carburetor to run dry, I would suggest installing a new flexible gas line, and also check the line from the tank to the fuel pump for leaks. There is also the possibility that the check valves in the fuel pump are faulty. Either replace the check valves or install a new combination pump.

How to Locate Noisy Valve on a V-8 Chrysler

We have a 1951 Chrysler V-8 on which the tappets are noisy. Is



there any way to find out which one of the tappets is at fault?

Blackman's Automotive
Wilkes-Barre, Pa.

YOU can determine which one is noisy by removing the valve covers. Then installing the plug wires and running the engine at idle.

Place your finger on each rocker arm and the noisy rocker arm will

be detected immediately. A shock will be felt as the valve comes down to its seat. Sometimes worn valve guides are mistaken for noisy tappets. If this is the case, the noise will be dampened by applying side thrust to the valve springs which will temporarily take out the sloppiness of the valve stem. If applying pressure to the valve stem doesn't take out the noise then the lifter is definitely at fault.

Pontiac 6 Keeps Breaking New Pistons

I have a 1942 Pontiac 6 which is a problem. I rebored the block and installed new .040 oversize pistons and rings. After about 8000 miles the No. 5 piston broke. I installed a sleeve in the cylinder and new rings and pistons.

Later the No. 3 piston broke and I replaced it. Then the No. 2 piston broke and I also replaced that. After running the car around the block I found the No. 3 broken again. My friends say the pistons are at fault. My jobber who rebored the engine in the beginning says that this is a chronic condition.

Joseph Simone
Joe's Gulf Service
Hawthorne, New Jersey

THIS is not a chronic complaint on these engines, and there must be a reason why they break. I would suggest checking the connecting rod alignment and also the crankshaft end play. If the pistons break at the same place all the time, then they might be defective. Before installing them it would be a good idea to have them magnafluxed, and this would show up the weak points if there happen to be any.

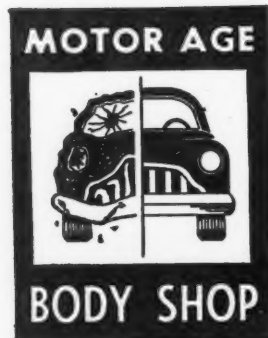


Fig. 1. After garnish molding is removed, hold rubber aside with a screwdriver and remove the outside corner trim retaining nut.

Fig. 2. The molding can then be pried off. On some models the piece is held by a clip.



The Easy Way to



by Joseph Witkin

IN the past few years windshields have changed almost as radically as have other components of the car. Now they have sweeping curves to blend in with the car styling. They are tinted to reduce glare. They are larger to improve visibility. They are made in one piece. The curved and one-piece features present some new problems in installation. By following the procedure described here, installation time can be simplified and done in a minimum of time.

Remove the rear view mirror and garnish molding from around the inside edge of the windshield. On some models a nut will be found in each upper corner. Hold the edge of the rubber molding lip away with a screwdriver and remove the two nuts with a small 5/16 inch socket.

Removal of these nuts will allow the two upper corner pieces of the chrome reveal molding on the outside of the windshield to be pried off. Pry gently at the center of the corner pieces so that the slots which engage the side and top chrome strips will be disengaged. Mark each corner piece as to location (right or left) as they are not interchangeable. The rubber molding is tight and the threaded bolts

(Continued on page 96)

to Replace GM Windshields

Eliminating wasted motions and minimizing trim removal speeds this procedure



Fig. 3. Prying off the chrome molding strips, making the rubber seal accessible.



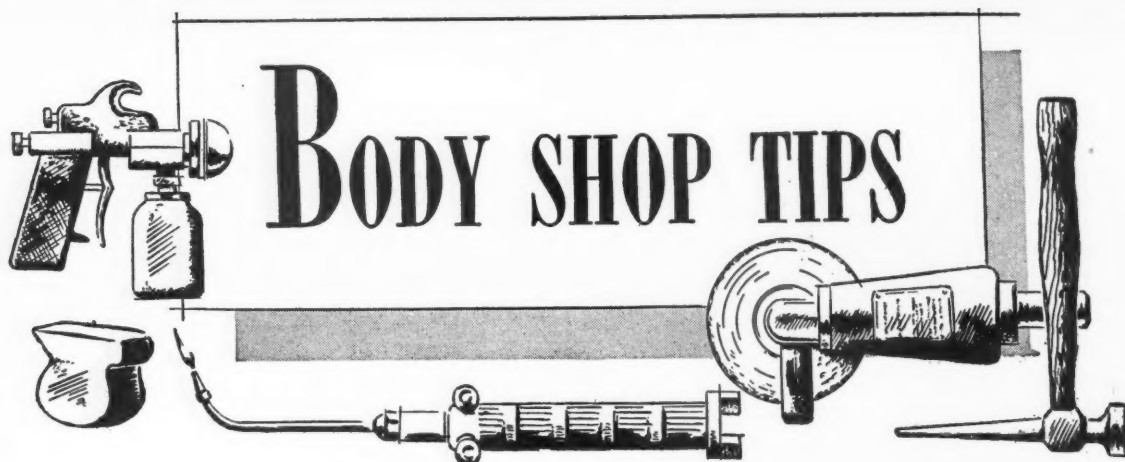
Fig. 4. Be sure that the rubber is completely free around the top and sides.

Fig. 5. Use a block of wood as a bearing surface on which to force the glass out.



Fig. 6. Have someone hold the rubber away from the dash and apply sealer all around.





BODY SHOP TIPS are worth

\$7.50

If you've developed an idea that has helped you to do body and fender work or painting better or faster, it may be worth money. Jot down the idea and, if necessary, make a rough sketch. Sometimes a snapshot will help. Just make the description of your BODY SHOP TIP clear, and if it is used, you'll receive a check for \$7.50.

Masking Compound Made From Soap, Anti-Freeze

In my line of work in the Army we do a lot of vehicle painting. I've found the following to be a very effective masking compound when the commercial product is not available.

Heat to about 200 deg. C two quarts of water; mix thoroughly in the hot water 12-15 oz. of any type of soap powder or chips; add to this mixture one pint of Prestone or any other permanent type anti-freeze. Upon cooling, this solution will thicken and when applied on any surface upon which paint is not supposed to adhere, it proves very effective.

After the paint job is finished and dried, a little water and a rag removes all traces of the masking compound, leaving a clean neat job.

In case the mixture should thicken too much, add a little more of the anti-freeze solution. This

prevents the soap from drying too hard. This type of masking compound can readily be applied with a small brush on fine and narrow surfaces where masking tape is too wide to use. There is never any under spray when this type of masking compound is applied correctly. *E. J. Ruta, Su. Company, 2nd A/O, APO 696 c/o PM, New York.*

How to Keep the Torch In Hand While Shrinking

You usually read about how to lay your torch down when shrinking spots but I have found that you can eliminate the laying down, by picking up the hammer to strike the spot and then changing it back for the torch again.

Just hold the torch and hammer both in your right hand with the flame pointing one way and the hammer head in the opposite direction. You apply the flame, then twist your wrist around to use the hammer. If you have a lot of shrinking, your hand will get tired, but on a job with four or five spots, it works fine. *Charles S. Sharp, 126 Alabama, Mexico, Missouri.*

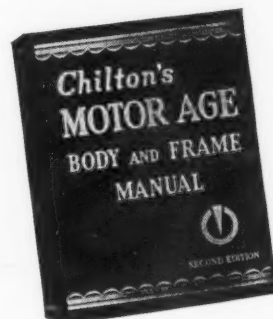
Caulking Crevices Helps to Make Paint Job Stand Up

I have discovered a successful method for preventing rust from breaking out from under chrome moldings. Use an ordinary caulking gun to seal off all chrome moldings and body panel crevices. All excess caulking compound can be cleaned off very easily and neatly with gasoline. This system can also be used before or after every

repaint job and will do much toward making that job last considerably longer as far as rusting is concerned. *Raymond Palone, Rices Landing, Pa.*

A Short Cut on Removing Windshields on Fords

On '49, '50 and '51 Ford cars with the chrome strip around the windshield, I have found that by not taking the center bolts clear out and by just taking the chrome partly out, that one can save almost half the time of putting in the glass, especially in a one-man shop like mine. You don't have to bend up the chrome in removing the glass. Just loosen the chrome about 4-inches around the curved part. Don't take the chrome clear out, and loosen the center strip but do not take it out. By removing the chrome, as indicated, and leaving in the center strip and main portion, the windshield will come out easily and the chrome will go back in easily. *Harold V. Meints, Odell Body Shop, Odell, Neb.*



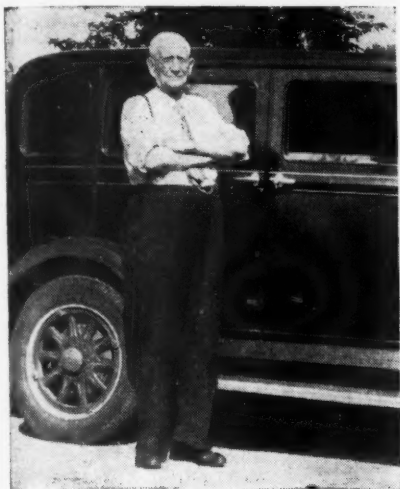
Other valuable information of the type presented each month in The BODY SHOP is available in Chilton's Motor Age Body and Frame Manual.

Chilton's MOTOR AGE, AUGUST, 1953

Uncle Albert and his Hudson

Editor, MOTOR AGE:

I am enclosing a picture of my uncle, Mr. Albert S. Broughton, Medina, New York, was was 91 years old on July 4th. His driver's license which was renewed in September, 1952, in the state of New York, where their license runs for a three year period. This will take him up to 1955 for driving if the good Lord is willing.



His Hudson is 22 years old and runs very well . . . he uses it very little in the winter time. *J. E. Toombs, Jack Toombs' Auto Electric, 5401 So. Dixie Highway, West Palm Beach, Fla.*

An Added Thought on Jags

Editor, MOTOR AGE:

The article covering the Jag XK-120 is very good and I enjoy working on them except for the cramped up engine compartment. There are several Jags in this locale. The stock model came out with the coil and distributor buried in a very hot place. I have moved some to the rear on top of the engine block, which necessitated cutting the rear hood web slightly. That was for a Mallory HD coil. However, it left the condenser and ignition head still down in that hole where it is hot and murder to get at when the engine is hot off the road.

Give us some more on the foreign born cars because we are sure to have more of them as time goes on. *R. Vernon Fuller, Foreign & Domestic Auto Repairs, P. O. Box 1652, Daytona, Beach, Florida.* P.S. The Canadian visitors bring

Letters

TO THE EDITORS



the most of the smaller class of cars to this area.

Thanks for your remarks on the Jag. Your idea on relocating the coil and distributor sounds good. We hope that through our foreign car articles we can stir up interest among domestic shops in the advantages of offering service on these cars.

Oldest Running Car

Editor, MOTOR AGE:

In one of your recent issues you had an article on old cars reconditioned. We have an antique called the Hammel Car, built by a Danish mechanic in 1886 and driven for the first time in the spring of 1887. It has a 2-cylinder, 4-stroke, 2.8 litre engine and a 160 lb. flywheel to keep it going.

The car does 6 miles per hour forward and 3 miles in reverse, the power being taken respectively from the crankshaft and the camshaft. Carburetion is by an evaporator containing 2 U. S. gals. The jets are small pieces of sponge.



Ignition is by small steel bars heated permanently at one end. In the days before the great improvement in steel qualities, these bars would have, no doubt, burned away very quickly. With modern heat resistant steel the whole car is quite reliable.

The Hammel Car was driven until the early nineties, and then left and forgotten. When we got hold of it, it was in very bad condition, but we have been able to recondition it, using only one new piston and one connecting rod.

The picture shows the engine from the front. The camshaft is open and the lubrication is done partly by wicks and partly by road mud thrown up from the wheels.



The second picture shows the first run. The mechanic at the gears is very pleased. He is the one who did the job. The young man in the middle has a very difficult job of steering, as the wheel turns the wrong way around. This takes a great deal of concentration until you get used to it. We believe the Hammel Car is the oldest running car in the world. *F. Bulow-Jacobsen, F. Bulow & Company, Copenhagen, Denmark.*

To the best of our knowledge, no one can dispute your claim to the oldest running car. The oldest gasoline operated car in the U. S. A., we understand is an 1892 Hurler-Benz, owned by Earl W. Flosdorf, Forest Grove, Pa., who brought it over from France recently. This car also has an evaporator carburetor. While we have several older cars in operating condition, they are now in museums, not running.

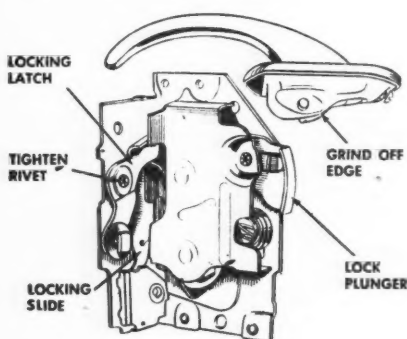
Service Suggestions

From the Factories

Door Handles May Prevent Locking Door

When checking the door locks on P-24 model Plymouths, there may be occasions when the door can be locked from the inside but not from the outside with the key. If this is the case, look for the condition in the handle or latch, and not in the lock cylinder.

The pull type handle used on 1953 models should be positioned so that it fits completely over the



lock plunger. Excess metal may cause partial engagement of the lock plunger, and the door cannot be locked from the outside with the key. Grind off the excess metal, as shown in the illustration.

It may also be helpful to see that the rivet on the locking latch is tightened sufficiently. In addition, be sure that the remote control assembly in the door inside panel is positioned properly.

Rubber Lubricant Can Be Applied To Wiper Blade

Here is a good way to create a little customer good will. Clean wiper blades with a good rubber lubricant every time the windshield is cleaned. This prevents the usual smearing of the windshield by dirty blades when the wiper is turned on. It can be applied to the blades with a cloth or sponge and then wiped off.

Check Lower Radiator Hose On Pontiacs For Clearance

A few 1953 eight cylinder cars have been found to have the lower radiator hose improperly installed so that it contacts the engine front support plate. Because the engine mountings are flexible, interference may result in a damaged lower radiator hose and loss of coolant. There should be a minimum of $\frac{1}{2}$ inch clearance between engine front support plate and lower radiator hose.

All 1953 cars should be inspected to see that the lower radiator hose has proper clearance. If adjustment is necessary, loosen both hose clamps and adjust hose to get required clearance.

1953 Chevrolet Powerglide Carburetor

Powerglide carburetors produced after January 1, 1953, have been enriched slightly, making their flow characteristics the same as the 1953 conventional carburetors. This change was made to overcome a lean feeling or surge condition on part throttle acceleration just before the power jet comes into operation.

Carburetors built to the leaner specifications may be identified by the date stamped on the bowl cover gasket L-2 or M-2 (November or December 1952). All car-

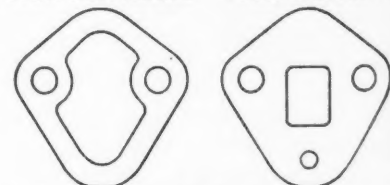
buretors built to new specifications will be dated A-3 (January 1953) or later.

If the above condition is experienced on any of the early 1953 Powerglide models, it may be corrected in the field by replacing the presently installed Main Well and Power Valve Support Assembly with assembly Part No. 7005422. This is the same Main Well and Power Valve Support Assembly and has the correct main metering jet and power jet to meet the new flow curve for Powerglide models.

Oil Filler Housing Gasket Redesigned in Cadillac

A newly designed fuel pump-to-oil filler housing, Part No. 1461144, incorporating a smaller hole for fuel pump operating rod clearance, has been in use on all

PART NO. 1453978 PART NO. 1461144



1953 cars beginning approximately with Engine Number 50,000. The new design will allow less oil to find its way into the fuel and vacuum pump housing, thus virtually eliminating oil accumulation on the booster pump diaphragm.



*More
Bouquets!*

Auto editors write some of Studebaker's best advertising

"One manufacturer—The Studebaker Corporation—has had the courage to go beyond the easy prototype stage and bring out a series of cars embodying many of the desirable features of modern sports cars. It has brought out a line of cars—low, lithe, light and fast—which still contain American reliability, room and comfort."

—Official Program of
Sports Car Races at
Chamute Air Force Base.

"There can be no question about it—Studebaker has, with its new model, made every other American car look ten years older... Studebaker has credited the American public with having a respectable amount of sophistication and good taste and has built a car with appeal to such people."

—Motor World

"... The new Studebaker is... refreshing, stimulating and progressively styled... economical to operate, has good performance, handles exceptionally well, is easy to drive..."

—Motor Trend

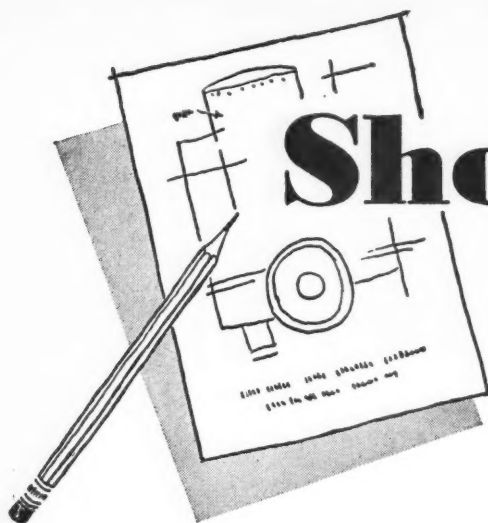
"Studebaker has done the American car-buying public a considerable service. It has produced one of the best conceived, cleanest and handsomest exterior shapes ever put on any production car anywhere."

—Auto Sport Review



1953 Studebaker

The new American car with the European look



Shop Kinks

If you've come upon an original idea for making a job easier, a special tool, short cut on a job or any trick of value to other readers, write it down and if necessary, make a rough sketch. Just make it clear. Send it to Motor Age. If we can use your Kink it may bring seven-fifty, possibly 25 dollars. All submissions become the property of Chilton Company. Because of the numbers received, no entries can be returned.

For The Best Kink Published Each Month . . . \$25

For All Kinks Published Each Month . . . \$7.50

Rust Loosened With Iodine When Nuts, Bolts Are Tight

When nuts or bolts become tightened from rust and you're out of penetrating oil, here is an idea on how to loosen them. Put a few drops of iodine on the rust and it will quickly eat the rust away. Wash off the iodine with gasoline and they are ready to work with again. *R. E. Goddard, 3006 N.W. 24th Street, Fort Worth, Texas.*

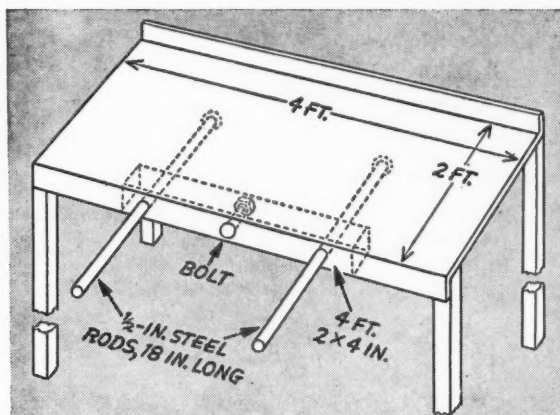
Crank Power Glide Engine By Drilling Hole in Housing

While working on Power Glide motors and transmissions, it is hard to turn the engine over when you are under the car, unless you have a special wrench and that isn't much good except for skinning the knuckles.

I drill a 9/16 inch hole right in the bottom of the flywheel housing and just about in the middle between the transmission housing and the front cover plate so that I can insert a screwdriver to mesh with the starter flywheel gear. Then it is an easy matter to turn over the engine in either direction. I also use a 3/8 inch pipe tap, tap the hole out and saw off a 3/8 inch pipe plug. Saw a screwdriver slot in it to screw it in flush. *John Gagozen, Greenwood, Wisconsin.*

(Continued on page 72)

Best Kink of the Month



A Handy Shop Bench

This handy bench stand has many uses, such as holding a cylinder head during valve grinding and for holding a driveshaft for U-joint work. Materials cost about \$1.00 and include a 4-ft 2x4, 2 1/2 inch flat washers, 2 cotter keys, and two pieces of rod.

Two holes are drilled 2-ft. apart in the front edge of the bench, with matching holes drilled in the 2x4. With the wood slid flat under the bench, slide the two rods through the holes. The outer ends of the rods should be swedged to hold in place. The inner drilled ends of the shafts are then locked in place.

This can be instantly slid out of the way when not in use. *Bill Ellis, Mechanic, Postier & Eggers Company, 419 First Avenue, Rochester, Minn.*

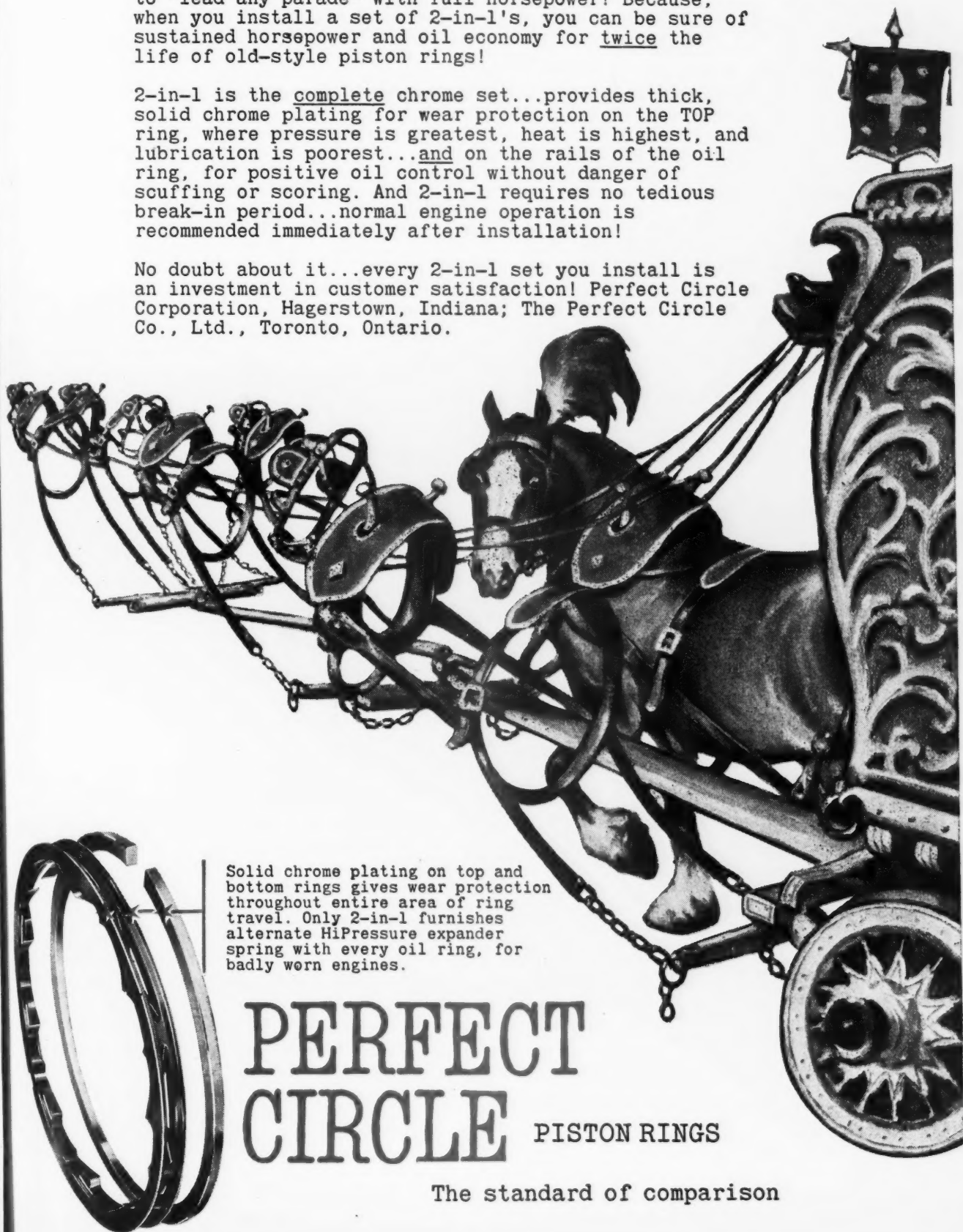
RESTORE LOST HORSEPOWER...

with Perfect Circle 2 in 1 chrome piston rings!

You can depend on Perfect Circle 2-in-1 Chrome Rings to "lead any parade" with full horsepower! Because, when you install a set of 2-in-1's, you can be sure of sustained horsepower and oil economy for twice the life of old-style piston rings!

2-in-1 is the complete chrome set...provides thick, solid chrome plating for wear protection on the TOP ring, where pressure is greatest, heat is highest, and lubrication is poorest...and on the rails of the oil ring, for positive oil control without danger of scuffing or scoring. And 2-in-1 requires no tedious break-in period...normal engine operation is recommended immediately after installation!

No doubt about it...every 2-in-1 set you install is an investment in customer satisfaction! Perfect Circle Corporation, Hagerstown, Indiana; The Perfect Circle Co., Ltd., Toronto, Ontario.



Solid chrome plating on top and bottom rings gives wear protection throughout entire area of ring travel. Only 2-in-1 furnishes alternate HiPressure expander spring with every oil ring, for badly worn engines.

PERFECT CIRCLE

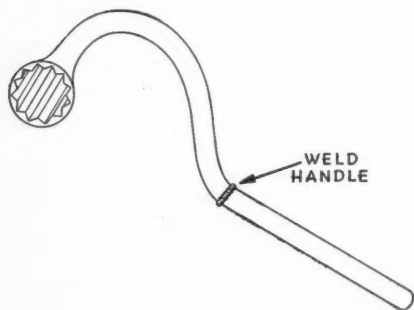
PISTON RINGS

The standard of comparison

Shop Kinks Continued from Page 70

Center Point Steering Tool Made From Starter Wrench

Here is a wrench which I made for removing and replacing the center point steering on 1949-1953 Chevrolets. I find it to be a time saver when rebushing the center joint. It is necessary on front end jobs.



I took an old starter wrench and cut the 5/8-inch socket off the end and welded a handle to it. The wrench was heated and bent several times until I got the right curve. It worked all right. *Tubbs Motor Company, W. B. Speck, Arkansas City, Kans.*

Remove Front Motor Mount To Take Out Clutch Housing

When removing the two top fly-wheel housing bolts, I have found, on Willys-Overland vehicles, that by removing the front motor mountings and lowering the front end of the motor, considerable time is saved. As there is no clearance between the bolt and the fire wall, this eliminates cutting a hole in the firewall. *Francis Bauman, Ser. Mgr., De Soto Motors, De Soto, Missouri.*

Remove Ford Transmissions By Jacking Rear Floor Pan

I have found a speedy and easy method of removing the transmission on late model Fords, 1949-52. This may be of help to transmission repairmen.

In most instances, recommendations call for removal of the manifold pipe and the cross member in the rear of the transmission.

I save one-half the time required on the job by placing a hydraulic

ram or jack under the center of the rear floor pan just behind the cross member. By raising the pan about 3 inches, it gives you enough room to clear the cross member and the transmission is easily removed. When the ram is removed, the floor pan springs to its normal position. *Bernard Shinal, Kitsee-Battery & Electric Service, Wilkes-Barre, Pa.*

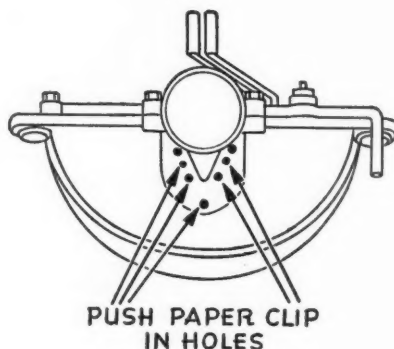
Handy Parts-Tool Carrier Made from Shop Equipment

I have made a stand with a tray on top to hold tools and parts while working on 1953 model cars where there are no bumpers.

An old brake drum, a 3/4-inch pipe, 32 inches long, and a tray, 24 inches by 20 inches by 2 inches, are the materials you need. Weld the pipe to the brake drum and the tray on top. It is best to weld a reinforcement on the bottom of the tray. When finished, set it in the middle of the car, close to the bumper. It can be reached from either fender. *K. L. Traumell, P. O. Box 285, Chanute, Kansas.*

Quick Repair For Sluggish Wiper Motors

I have found on all vacuum wipers, having these breather holes, a simple and very efficient repair is quickly made. Simply take a straightened paper clip or

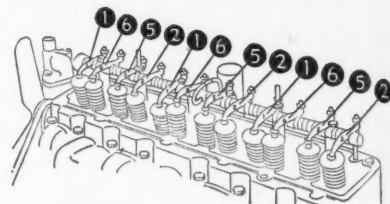


a small safety pin, and push it through the breather holes as illustrated. The wiper motor will then perform as good as new. *B & H Auto Repair, 3129 Sedwick Street, Phila., Pa.*

Chevrolet Rocker Arms Add To Seven for Easy Assembly

Here is an easy way to remember how to assemble Chevrolet rocker arms during an overhaul. All Chevrolet rocker arms since 1941, except on some late models with high torque engines, have Nos. 1, 2, 5, or 6 stamped on the arm.

When reassembling, just remember No. 7. Install the arms in pairs



with the casting numbers that add up to 7 from front to rear, as follows: 1 + 6 - 5 + 2 - 1 + 6 - 5 + 2 - 1 + 6 - 5 + 2. *Bob Mason, Pollard-Ravenscraft Chev. Co., 6232 Van Nuys Blvd., Van Nuys, Calif.*

Rubber Band Hold Inserts In Place on Rod Installation

When installing rod assemblies from the top, the inserts will often drop out. Double a rubber band across the rod, from one bolt to the other. This will hold the insert in place while putting the piston in the cylinder. Just before pulling the rod down on the shaft, pull the rubber band off of the bolts. *Fred E. Davis, Morrill, Kans.*

Lock in High Gear Eliminated With One-Inch Steel Washer

I have a kink to repair 1937-53 Chevrolet transmissions that stick in high gear. We find the trouble is due to a groove wearing in the transmission case. This allows the second speed gear to move back and forth causing the synchronizer ring to lock in the second speed gear teeth.

What we do to overcome this difficulty is to take a one-inch steel or bronze washer, .040 to .062 1/2 inch thick. About the same outside diameter as the original one. Install it behind the original washer and your troubles are over. *Ed Burdette, Burdette Garage, 1224 Huntsville Rd., Birmingham, Ala.*

Speed body refinishing with this new *Black & Decker* **UTILITY No. 88 SANDER!**



BODY AND FENDER refinishing is *fast, easy and profitable*—when you use the new B&D Utility No. 88 Sander! It's ideal for preparing surfaces for priming coats, and for sanding down the priming coat. It feather-edges beautifully—gets right up to moldings, door handles and other obstructions for a thorough job. The king-size sanding plate covers a full 40½ sq. in. at a time! It weighs only 8½ lbs., produces 5000 orbits per minute—is the most powerful of its kind on the market! Like all Black & Decker tools, it's quality-built with stamina for long life. For a free demonstration, see your regular B&D Utility outlet. Or write for free catalog to: **THE BLACK & DECKER MFG. CO., 620 Pennsylvania Ave., Towson 4, Md.**



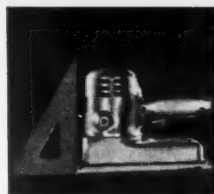
SANDERS



DRILLS



POLISHERS



KING-SIZE BOTTOM PLATE
4½" x 9" extends beyond
body of tool for sanding up
to molding, handles, etc.



MODERN SWITCH HANDLE
is located close to housing
for better control, less oper-
ator fatigue.



AUXILIARY KNOB HANDLE
gives choice of three posi-
tions for sanding close to
obstructions.



UNIQUE PAPER HOLDER
stays open when attaching
or detaching paper for easy
changing.

Black & Decker
UTILITY ELECTRIC TOOLS
**PORTABLE
ELECTRIC
TOOLS**

Torture Tests Continued from Page 57

his chart, and lowers the pressure to 18 psi.

This sort of treatment will accelerate tire wear (or failure) to such a degree that the wear caused by three years of normal driving can be obtained in just a few weeks on a test car. On tests like these and many others, manufacturers of reputable makes of tires spend hundreds of thou-

sands of dollars each year to torture their products. By wearing them out, rupturing them, blowing them out, and otherwise deliberately abusing them, the manufacturer can find any weaknesses in his product, determine how it can be improved upon and compare it with his competitors' products.

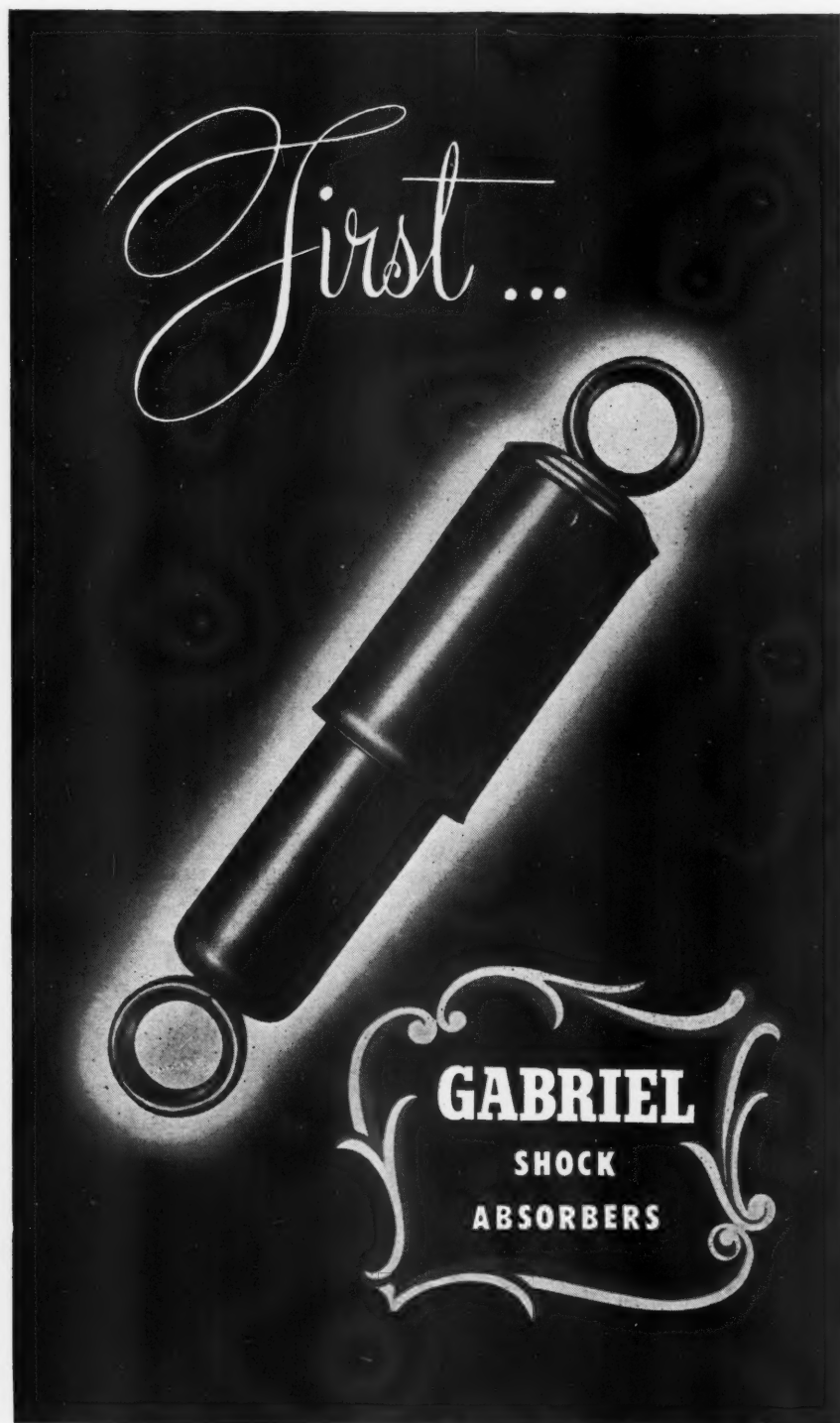
Long before a tire is put on the

road for testing, it undergoes a series of carefully engineered laboratory tests to determine the quality of new cord design, carcass construction, impact resistance, growth, and other such factors. In the laboratory a tire is run against a large dynamometer wheel which is powered by electric motors. Tires can be run at various speeds under various loads. Lugs are attached to the wheel of the dynamometer to simulate bumps, and the tire is compressed against the test wheel to give the effect of loads. These tests are conducted to determine the growth of cuts, endurance of the carcass, degree of heat build-up, and the amount of tread cracking. The point at which an experimental tire blows out under fixed conditions, as compared with an already proven tire, helps the manufacturer to decide whether or not the new product is any improvement over previous construction and what the weaknesses are.

Temperatures are taken periodically with a gage that has a steel needle connected to a thermocouple. The needle is inserted into the carcass of the tire at several points to obtain average temperatures which are compared as the load and speed is increased.

Not all characteristics of a tire can be determined by running, either against a test wheel or on the road. For instance, a controlled check of casing strength is known as the "plunger test," in

(Continued on page 76)



First...

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SHOCK
ABSORBERS

LUBRICATION



"You know Bill, I'm beginning to think this shortage of help may not be all just talk."

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4 BIG BENEFITS

that work for you

A well-balanced stock of
genuine Chevrolet precision-built parts
that

Help raise your service efficiency
and

Help increase your customer satisfaction
plus

Expert help in solving your
service problems!

Your Chevrolet dealer is ready,
willing and able to give you all

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when you deal
with your Chevrolet dealer,
your partner in service!



WORLD'S BIGGEST SERVICE MARKET

More than 1 out of 4

vehicles on the road is a Chevrolet!



Be prepared for this constant, profitable
service market by ordering genuine
Chevrolet parts from your Chevrolet
dealer NOW!



Torture Tests Continued from Page 74

which the tire is mounted in a machine which has a pneumatic ram and plunger. The plunger is slowly forced into the casing while the tire is checked for pressure buildup. The amount that the plunger depresses the casing before failure is compared with the "par" to determine strength of the casing construction.

Most of the tests in the laboratory have to do with the construction of components of the tire such as tensile strength of the cord, resilience of the rubber in the tread compound, and so forth. But laboratories on wheels have been developed in some cases to test factors which cannot be checked in a laboratory or on a

car. A machine, such as shown on page 56, tests a tire's anti-skid characteristics, rate of slip, traction and other traits which would be inaccurate and dangerous to test on a car. The rig is towed with a 10-ton Diesel truck, and accurate instruments record the scientific information which could not be obtained otherwise.

On the road the tires are tested for overall quality. The important thing that can be learned by actual running is how long a tire will last under specified conditions. To obtain a complete picture, test cars are run on all types of roads, from smooth, level turnpikes to hilly roads covered with jagged rocks. Most test fleets include one or more heavy duty trucks to put heavy strains on truck and bus tires. Trucks and cars are usually run twenty-four hours a day, in three shifts. To keep an accurate record of time traveled and speed throughout the tests, special instruments are installed to indicate and record the speed traveled and the endurance of the test.

To control the amount of weight carried for a specified test, lead is bolted to the floor on the back. For accelerated wear tests such as high speed, long endurance runs on the Pennsylvania turnpike, experience has taught the test engineers just how much weight can be added on a particular model car with certain tires so as to permit fast wear at 70 mph without too much danger of blowouts. If loads are increased, wear increases, but so do blowouts—and a blowout due to excessive loading at high speeds proves very little about wear characteristics.

Truck tires are tested in a similar manner to passenger car tires except that each dual wheel is equipped with one road tire and one "safety" tire (of smaller diameter so that it hits the road only when the test tire fails). The truck may be loaded with iron or lead weights or, in the case of dump models, sand. It is often put through tests which are far more gruelling than a standard highway run. One company,

(Continued on page 78)

GOOD BEARINGS + CORRECT INSTALLATION = SATISFIED CUSTOMERS

JOHNSON

BEARINGS are "good bearings," precision-made top quality bearings. However, the correct method of removing, installing and maintaining them is highly important for getting the utmost in service with them. For this reason Johnson engineers prepared the Johnson Automotive Bearing Manual, full of information for the mechanic who replaces engine bearings. If you do not have a copy, write us on your business letterhead and we will send one free.

JOHNSON BRONZE COMPANY
455 South Mill St., New Castle, Pa.

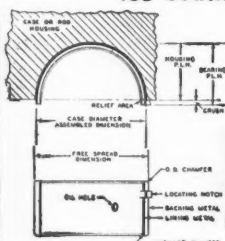


Fig. 12. Nomenclature of straight shaft bearing.

As can be seen (Fig. 12), the bearing is made so that its installed height is actually greater than that of the case or rod bore. Thus, when the two halves are clamped tightly together, the insert is "crushed" into the back of the bearing hole, insuring a solid seat against the very important if the bearing is to perform its heat-conducting function most efficiently. Also, the free spread diameter of the liner is greater than that of the bore which causes the bearing to "snap-in" place when it is installed. The notch, lug, or tang serves to locate the bearing and lock it in place against the opposite housing parting line face.

HOW-TO-DO-IT TIP

—Excerpt from
Johnson Automotive
Bearing Manual



JOHNSON BEARINGS
Sleeve B Type

NO MATTER WHAT THE FILTER NEED
YOU MAKE THE SALE
WITH *wix*

*WEARMITES are "engine termites" — the Grit, Dirt and Tarry Sludge that multiply in dirty oil and combine to destroy car, truck and tractor engines.



PROFIT BY THE COMPLETE COVERAGE OF

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ENGINEERED FILTRATION

To boost your sales and profits, WIX Engineered Filtration provides just the right Oil Filter Cartridge for every customer and every service need. . . Cartridges that take out all the *WEARMITES without removing a speck of valuable oil additives.

There are three exclusive WIX Filtrants — WIXITE, the unique, Resilient Density Filtrant for by-pass systems, WIX-KNIT and the sensational new POROSITE for full-flow passenger cars and tractors, Screw-in Can Types for special tractor installations . . . types and sizes for every popular filter-equipped engine.

You make sales when you give customers what they want, and that's easy with WIX. Ask your WIX Wholesaler about the all-inclusive WIX Line of Oil Filters and Cartridges today. It means profits for you!



WIX WF-110-N FILTER
FOR CHEVROLET

WIX No. WF-110-N (Revised) is full Military Standard Jr. size. Takes the large capacity WIX PC-100 Cartridge. Comes complete with all fittings for QUICK, easy installation on all models, 1949 to 1953 inclusive, including those with power steering. Does not require removal of air cleaner for Cartridge change. See your Jobber about this full profit opportunity for Chevrolet Cars and Trucks. Other WIX Filter installations and conversion Kits are available for many other cars.



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OIL FILTERS CARTRIDGES

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Torture Tests Continued from Page 76

for instance, has what it calls the "quarry circuit," in which the truck is battered around over the bed of a quarry for hours. After the tires have been sufficiently punished by the sharp rocks, they are examined to see how that particular tread compound or carcass structure has withstood the ordeal.

After the quarry test, the cut and bruised tires are taken out on the highway to determine the extent of cut "growth." Some constructions withstand cuts without getting noticeably worse, while others will allow a cut to grow into a dangerous gap.

The rock test, not to be confused by the quarry test, shows

how truck tires act when running over coarse stones such as are found on unimproved roads. The number of stones picked up by the tread is noted, as well as the speed at which centrifugal force ejects the stones. When tires have bad "pick-up" characteristics, the tread pattern is modified to reduce this hazard, since running over a stone which is embedded in a tire may cause serious damage to the casing. Also, when a tread retains a large stone until about 40 mph, at which speed it lets it fly, some car in back may get a rock in the windshield.

Other torture tests include the rupture test, in which a tire is run at high speed over a blunt steel cone to check its strength. The cone will push the tread way up into the tire, but the casing should not be damaged. The "chuck hole" is a severe test in which the car is driven over a deep, sharp chuck hole at high speed. After a certain number of these blows, the tire is removed and examined for damage.

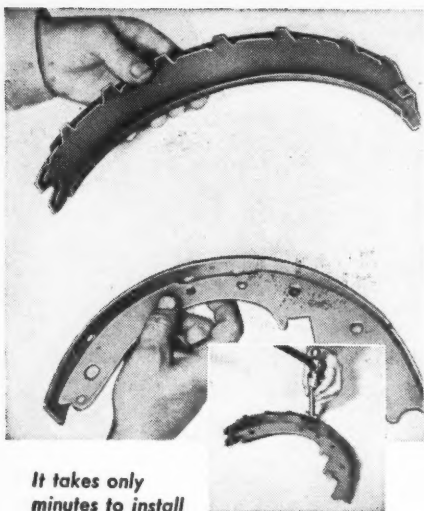
A number of instruments have been developed for recording bounce, noise on turns, road gripping qualities, and similar characteristics, but in the final analysis, human judgment is relied upon in many cases to compare a new tire with the "par." Test engineers try the new tires under all conditions to get the "feel," and this is usually a good yardstick by which to tell just how well a new tire performs.

To fully describe the many types of tests performed by the tire manufacturers would require many pages. These tests are by no means short term projects or innovations in the tire industry. They comprise a constant program to provide the motoring public with a safer, longer wearing and better performing product. It's a hidden part of the product which you sell, and certainly a strong selling point in favor of reputable brands of tires.

Illustrations courtesy Armstrong Rubber Co., Lee Rubber and Tire Corp., Seiberling Rubber Co., and United States Rubber Co.

Now RUSCO presents . . .

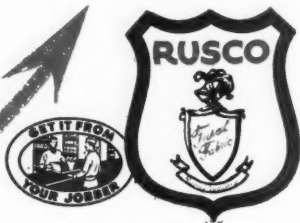
Fused Fabric Lock-on



It takes only
minutes to install

With Rusco Fused Fabric Lock-on, you're ready to do a bonded brake lining job in minutes with no shoe exchange, no costly equipment, no large inventories. Lock-on metal backed linings are quickly installed with ordinary tools. Only 24 sets fit 90% of all light cars and trucks. And, each unit is factory tested and guaranteed to be perfectly bonded.

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"This Schrader Gauge and Certified Air Service get me regular customers"



This is what Oscar P. Wolff, owner of Wolff's Service Station,
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"I show my Schrader Gauge like I show the oil dipstick. One of the most valuable services a station can give is correct gauging of tire pressure, regular Certified Air Service with the best equipment—and that means Schrader! When customers know how much less tire trouble and how much extra tire mileage it means, Air Service pays off. They come in regularly for all your services."

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A. SCHRADER'S SON

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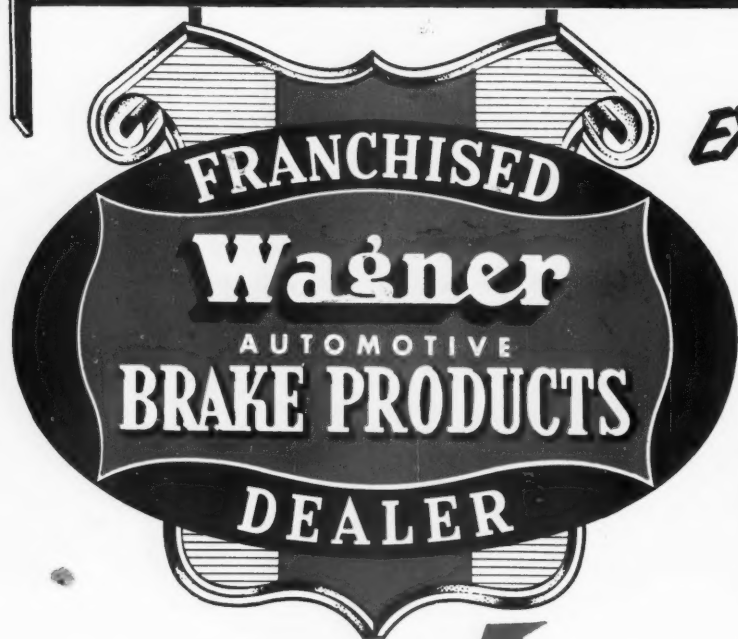
FIRST NAME IN TIRE VALVES

FOR ORIGINAL EQUIPMENT AND REPLACEMENT



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EXCLUSIVE WITH WAGNER
IT'S A
MONEY MAKER for you
you have
EVERYTHING TO GAIN
—NOTHING TO LOSE*

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A53-6

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ask your jobber or write us for complete information . . . do it today!

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3. Cash in on extra profit on brake work—you enjoy greater profits through special buying arrangements when you qualify as a Franchised Dealer.
4. Reduce your stocking problems—you always have what you want when you need it. Your jobber keeps your stock up to the minute.
5. Maintain better coverage—your stock is balanced for your volume of business and for the demand in your neighborhood.
6. Keep up to date with good maintenance and catalog information—the best in the industry.
7. Simplify your buying—get all your brake service parts, fluid and lining from one source—your Wagner jobber.
8. Make your advertising bring better results with this advertising material—banners, streamers, post cards, newspaper mats, stickers—everything needed to help you tie in your local advertising with Wagner's national campaign.
9. Be recognized as a Wagner Franchised Dealer. Wagner furnishes metal signs, decals, streamers—everything to identify you as a Wagner Franchised Dealer.
10. Cash in on national advertising in the Saturday Evening Post and Collier's. This advertising is directed to the car owner and appears on regular schedule.

Wagner Electric Corporation

6498 Plymouth Ave., St. Louis 14, Mo.

(Branches in principal cities in U. S. and in Canada)



Wagner®

...the best known name in brake service

TACHOGRAPHS • ELECTRIC MOTORS • TRANSFORMERS • INDUSTRIAL CRANE BRIDGE BRAKES

changing the geometry of the steering linkage. In effect, the existing steering system, including the steering gear, remains intact.

The hydraulic power cylinder is mounted at any convenient place where it can be connected to act directly upon the steering cross rod or equivalent member. Power for steering is then applied in the

simplest and most direct way as straightline motion to the steering linkage of the vehicle.

The control valve of the two-unit type installation, which is being currently used on passenger cars, is mounted at one of the ball joints, usually at the Pitman arm. A small movement in the valve serves to open and close hydraulic ports, to

operate the double-acting power cylinder.

An alternate type unit combines the control valve with the power cylinder. This gives a simpler and more compact installation, where surrounding design permits.

Either the composite single-unit type or the two unit type with the separate control valve can be used, whichever best suits the space and placement conditions of the individual vehicle. Normal operation of the steering gear and system by physical effort is not interfered with in any way if the engine is not running and there is no hydraulic pressure.

In operation a reaction force is set up in the control valve proportional to the hydraulic pressure in the valve and in the power cylinder, tending always to return the valve to neutral position for straight ahead steering. This also gives the driver a natural "feel" of the steering force being exerted and prevents over steering.

If desired, the control valve can be furnished with centering springs which spring loads the valve in the neutral position. This has the effect of increasing the physical force required before power steering begins if this is desired in the individual application.

Seven out of every ten of the nation's passenger cars are used for transportation to and from work or for business purposes.

NADA Official Used Car Guide Set for Publication

The National Automobile Dealers Used Car Guide Company will publish their appraisal guide service for six areas in place of their customary three, beginning August 1.

Based on a study of sales reports submitted regularly by the nation's new and used car dealers, the additional publications are designed to help dealers keep abreast of rapidly fluctuating used car market conditions.

Regular 30 day publication schedule will continue and appropriate guide books under the new regional breakdown will be mailed automatically to subscribers for their localities.

NOW! GREATER CAPACITY

for all kinds of automotive soldering



- Under-the-dash Work
- Instrument Case Soldering
- Gas Line and Tank Repairs
- Radiator Work
- Body and Fender Finishing

New WELLER Guns have all the features and power you've been wanting:

- Higher capacity for heavier work—Single or Dual Heat, from 100 to 275 watts.
- Instant heat saves time and current, pays for your Gun in a few months.
- Thermostatic Control—Instantaneous regulation of tip temperature.
- New floating balance for precision soldering—easy handling between wiring and in narrow spaces.
- Improved WELLERTIPS for soldering, plus cutting and smoothing tips for extra jobs.
- Prefocused Spotlights—Trigger-Switch Control—Shatter-proof Housing.

Weller

Better from Grip to Tip

ELECTRIC GUNS

801 Packer Street, Easton, Pa.

THE FINEST TOOLS FOR THE FINEST CRAFTSMEN

4 NEW MODELS
for all requirements—
from \$8.95 net price.
Order from your WELLER
Distributor or write for
bulletin direct.

BARDAHL DOES IT AGAIN

IN LIFE MAGAZINE -

AUGUST 17 ISSUE ...

BIG COLOR PAGES

THAT PAY OFF

IN EXTRA SALES

FOR YOU.



P.S. Keep plenty of stock on hand for the busy tourist season. BARDAHL is hotter than a pistol from Coast-to-Coast as the result of powerful TV spots, big-space magazine ads, and radio saturation campaigns!

Don't forget to ask your BARDAHL man for the new BARDAHL OUTBOARD OIL!

**BARDAHL: SEATTLE • ST. LOUIS • Boston • Vancouver
Montreal • Mexico City • Oslo • Antwerp • Florence**

COPYRIGHT 1953, BARDAHL MFG. CORP., SEATTLE



**"the man at the bottom of the hill
is getting the tire chain business"**

Few motorists think about buying tire chains until slippery roads catch them unprepared. Then they buy at the handiest spot: "the bottom of the hill."

Sell your customers

CAMPBELL *Lug-Reinforced* **CHAINS** **before it snows!**

Only Campbell provides patented Lug-Reinforced construction. Extra metal in the lugs means extra wear . . . greater traction. *National Safety Council Tests show that reinforced tire chains increase stopping ability nearly 3 times, and starting and climbing traction 4 to 7 times.*

Campbell offers this sure-fire program to put you at the top of the sales heap:

- Modern, colorful package is easy to display, stores better, keeps chains neat in car trunks.
- Campbell gives you eye-catching banners, ad-mats, post cards and display suggestions.
- Campbell helps pre-sell your customers with regular advertisements in SATURDAY EVENING POST and COLLIER'S.

Call your jobber. Get complete details on the Campbell Merchandising Program.



Easy to use Chain Applicator included at no extra cost with every box of Campbell passenger car chains.



CAMPBELL CHAIN *Company*

MAIN OFFICE: YORK, PA.

West Burlington, Iowa; Portland, Oregon; Sacramento, Calif.

Chain for every need... industrial... farm... marine... automotive



Sound Credit . . .

Continued from Page 55

unable to carry because: (1) repossessions flood the used car market; (2) public confidence is shaken; (3) dealers become frightened; (4) other risky business practices crop up as dealers try to stay afloat; (5) distress sales and bankruptcies begin to blight "automobile row."

If credit is to be administered on a sound basis, we must observe certain guideposts; we must consider; (1) the customer's character; (2) his capacity; (3) his capital.

Character, the quality which enables us to trust one individual where we cannot trust another, is probably of more importance in judging credit terms than is the customer's wealth.

In judging the customer's capacity, we must consider: (1) his earning power; (2) his capacity to work; (3) the kind of work he does; (4) how he is regarded by his employer; (5) his ability to pay as contrasted with his willingness to pay.

We must decide whether the customer can and should assume an obligation together with any cost of upkeep. Capital often does not enter into the picture with the average customer but we should remember that a man with a savings account can meet reverses better than the man liv-

(Continued on page 86)



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1953's

Best Money Maker



AC MODEL "L" SPARK PLUG INDICATOR

This pressure test indicator shows relative operating efficiency of used plugs compared with new ones—indicates when used plugs need replacement.

Sturdy, one-piece body features

- ★ deep well spark view chamber
- ★ flip-flop connector arm
- ★ easily read indicator dial
- ★ 4 bolt holes for bench mounting

**THIS "Spark Plug Salesman" WILL QUICKLY
PAY FOR ITSELF IN INCREASED SPARK PLUG SALES**

Sound Credit Continued from Page 84

ing on a day to day basis.

Of vital importance to sound credit terms is the amount of the down payment, the customer's equity in his purchase. Statistics show that the greater a customer's equity is in his purchase, the less chance there is of his failing to meet payments. All leading finance companies and banks rec-

ommend a down payment of at least one-third of the sales price, with the remainder spread over 24 months or less.

Credit sales, wisely administered, are essential to the automobile business; it is estimated that 75 percent of all car sales are time sales, but when credit sales are loosely administered they are

sure, quick road to business failure for the automobile dealer and a threat to the National Economy.

Most economists agree that the level of consumer credit is not excessive and that credit has been extended wisely on sound terms. There will continue to be concern, however, and agitation for credit controls so long as a few dealers, banks, and sales finance companies grant unsound credit. It should be a prime objective of car dealers, therefore, to insist on sound credit terms and to use their influence to discourage the extension of "crazy credit terms."

Summing up, the job of administering consumer credit must facilitate the making of sound sales, must eliminate the unsound sales, must be willing to take a normal risk and must eliminate the abnormal risk.

The road to sound consumer credit is not a broad highway with direction signs which point out with certainty what is applicable under all conditions to all commodities and at all times. It is a road that must be travelled with judgment, intelligence, fairness and flexibility. It is a road that requires, at a minimum, a good dealer, a good commodity, and a good consumer. It requires understanding and discriminating appraisal of a customer's character and capacity and capital—and if these principles are followed wisely and well, with consumer credit we can create sales and profit and render an incalculable service to every consumer.

Ford Car Sales Up 1/3 Over First Half of '52

Ford passenger car sales during the first six months of 1953 were one-third greater than during the first half of 1952 and truck sales were one-quarter greater, L. W. Smead, Ford Division sales manager, announced.

For the last six months of 1953, Ford Division plans to maintain capacity production of both cars and trucks. Ford's planned production for the second half will undoubtedly exceed its first half production by a sizeable figure.

Hot Spark! High Speed!

for today's improved engines



NIEHOF
NIE-TRON
COIL

UN-177
Ultra High Output • Low Primary Draw • Does not require high capacity condenser • Maximum Insulation

Guaranteed for 100,000 Miles!

Replaces any coil on any car produced in the past 5 years without changing condenser or mounting brackets. Will fire an engine with battery as low as 2 volts. Recommended for all 6 volt systems...cars, buses, trucks and tractors.

**HAVE
YOUR JOBBER
SHOW YOU
NIE-TRON TODAY!**

C. E. NIEHOFF & CO.
4925 W. LAWRENCE AVE. • CHICAGO 30, ILL.
30th Anniversary Year

Branches:
Boston 34, Mass., 254 Brighton Ave.
Los Angeles 15, Cal., 1330 W. Olympic Blvd.
New York 19, N. Y., 250 W. 54th St.



Henry P. Cowen, President of MacGregor Golf Co., Cincinnati, Ohio, asks an unusual question:

"Which club is worth \$8,000?"

"Jack Burke was teed off!

"He was leading the Texas Open after two red-hot rounds. Then a souvenir-hound stole a custom-made 11-iron from his bag. Without that MacGregor 'Double Duty' iron, he was in trouble!

"He sent us a desperate telegram at Cincinnati. We called Air Express — and a duplicate club was in his hands the next morning!

"He went on to win the Texas Open and three more tournaments in quick succession. His new MacGregor 11-iron (6th from the right) was worth \$8,000 in prize money — thanks to Air Express!

"Jack and our other staff professionals are the 'proving ground' for MacGregor golf equipment. Keeping these famous players supplied as they move from tournament to tournament could be a tough job. But Air Express reaches them quickly—wherever they are.

"Demands of tournament committees, pro shops and retailers keep us calling on Air Express day in and day out. Air Express has never failed us. Yet costs on most of our shipments are actually *lower* than other air services.

"We save money by specifying the fastest service — Air Express!"

It pays to express yourself clearly. Say Air Express! Division of Railway Express Agency.



AIR EXPRESS

GETS THERE FIRST

via U. S. Scheduled Airlines

wheel cylinders and the power unit. If this releases the brakes, the power unit is at fault.

Cause: Missing inspection screw and gasket.

Cure: Install inspection screw and gasket. N.B. The inspection screw and gasket are on the main housing cover. This screw and gasket act as a seal for a 10/32 tap

hole used as a vacuum gage connection at assembly in the factory.

Loss of Brake Fluid From System

On both types, check all points for leaks such as wheel cylinder cups, master cylinder cup and line connections. Replace or tighten any part which leaks.

If this does not cure it, remove

the unit from the brackets and disassemble the main housing clamp rings and remove the housing cover. Examine the interior of the cylinder for fluid leakage. If fluid is found in the vacuum cylinder, replace the cups and seal assembly and thoroughly examine the cylinder bore and push rod for scratches in the finish.

Unit Does Not Boost

On both types, with vacuum in the unit and the engine running, listen for a rush of air through the air cleaner while the brake pedal is being depressed, using a fairly hard brake application. If

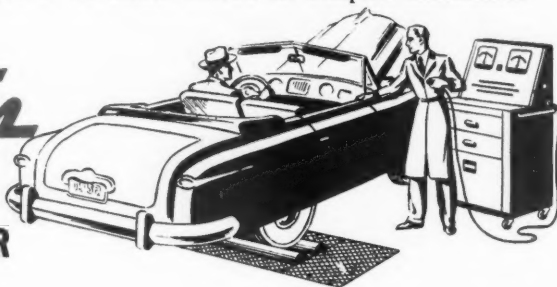
NOW... greater SERVICE PROFITS *are guaranteed..*



**OPERATOR
TRAINING
DOES IT!**

Your dynamometer operator can now become an expert... by attending the Clayton Dynamometer Operator Training School for one week. An intensive 5-day course covers every phase of dynamometer operation... trouble-shooting, tune-up, inspection and performance checking... guarantees profitable operation. A class starts the second Monday of each month at the Detroit school, located at 4620 Oakman Blvd., near Chicago Blvd. Another class starts the third Monday of each month at the Clayton factory in El Monte, Calif. Courses at both schools are identical... streamlined to teach proved dynamometer techniques selected from the best of hundreds of successful operations. Enroll your operator or service manager and insure greater service profits. Mail the coupon to the nearest address for complete information.

Clayton
CHASSIS
DYNAMOMETER



CLAYTON MANUFACTURING CO. (USE NEAREST ADDRESS) MA-8
4620 Oakman Blvd., Detroit 4, Mich., or Box 550, El Monte, Calif.

Send complete information on Dynamometer Operator Course at school checked. Also send new book on dynamometer operation.

DETROIT SCHOOL () EL MONTE SCHOOL ()

NAME _____

FIRM _____

ADDRESS _____

CITY _____

ZONE _____

STATE _____



It Rhymes

A farmer once called his cow
"Zephyr."
She seemed such an amiable
hephyr.
When the farmer drew near
She knicked off his ear
And now the old farmer's much
dephyr.

(Hoosier-Booster)

no rush of air is heard, remove the vacuum source line, empty the unit and run the engine to determine if the vacuum is being created in the unit, the line is either blocked, or restricted or the ball in the vacuum check valve is stuck.

The vacuum check valve is either at or near the engine intake manifold. If in the first test, the rush of air is heard through the air cleaner while the pedal is being depressed and yet the unit does not boost, it will be necessary to disassemble the unit and check the fluid ball and also the diaphragm for breaks which interfere with its operation.

Servicing the Valve Units

The air and vacuum valves contained in the valve housing require careful adjustment.

This adjustment should not be attempted in the field. Special equipment is required to insure a proper adjustment.

Bleeding Brakes

Power brakes are bled in exactly the same manner as the standard brake system in that air can

(Continued on page 90)

TESTED AND APPROVED BY MAJOR AUTOMOBILE MANUFACTURERS

CELLO

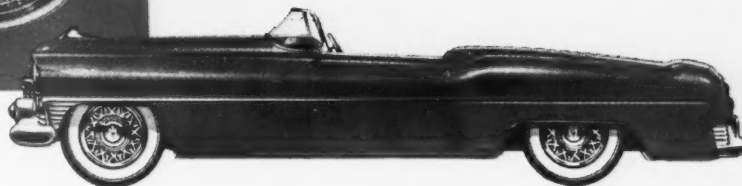
Wire Wheel

DISCS



with

**EXCLUSIVE
WHEEL-BOLT
LOCK ON!**



Here is the revolutionary wire wheel disc the entire country is looking at! Designed for the ultramodern styling of today's automobiles, Cello Wire Wheel Discs give sports car distinction at a fraction of the cost of real wire wheels.

TESTED AND APPROVED!

Cello Wire Wheel Discs are the **ONLY** wire wheel discs road tested and approved by several of the country's leading automobile-manufacturers.

The Cello Wire Wheel Disc, containing 48 real chrome plated stainless steel wire spokes, is equal in every respect to the "original equipment" offered by major car manufacturers.

WITH EXCLUSIVE WHEEL-BOLT LOCK ON

Wheel-bolt lock on is the outstanding new development by Cello which practically eliminates theft of discs. Each disc is firmly attached to the bolt circle of the wheel and is held by the same bolts that hold the wheel. This prevents petty thievery, rattling or loss due to centrifugal force when driving.

CELLO WIRE WHEEL DISCS FEATURE Automotive styling and engineering • 48 real wire spokes • stainless steel with chrome finish • wheel-bolt lock on • removable hub cap • proper wheel balance • custom made and fitted • tested and approved on various car manufacturers' proving grounds • original equipment as used by various car manufacturers • enhances appearance of car.

For further information regarding Cello Wire Wheel Disc Distributorships, Jobbers or Dealers—write . . .



WIRE WHEEL DIVISION

EAST BOSTON 28, MASS.

FOR SPORTS CAR *Distinction* AT A FRACTION OF THE COST—DEMAND CELLO WIRE WHEEL DISCS

be removed from the lines using either a through pressure type bleeder or by pumping the pedal in the usual manner.

Master Cylinder Return Line

Both the internal and external valve type power booster have a line which returns excess or leaked fluid to the master cylinder. This line contains a check

ball which will permit the excess fluid to return to the master cylinder but prevents it from returning back to the unit itself.

This check ball rarely gets into any difficulty but if it should it can be removed easily and cleaned and replaced without completely disassembling the power unit.

The only time that any test is necessary on this check ball is if

there is no other apparent reason for loss of fluid in the brake system.

Automobile Credit Sound, Loan Officials All Agree

Automobile installment credit was given a clean bill of health by representatives of the nation's leading finance companies, bankers, and members of the National Automobile Dealers Association.

All were in complete agreement that there was no cause for alarm in the automobile installment credit picture. In fact, the group viewed the present status of automobile credit as very healthy for the economy.

The amount of installment credit outstanding in relation to the retail value of cars registered at the end of 1952 amounted to 13.9 per cent as compared to 14.1 per cent in 1939, 18 per cent in 1940, and 16.2 per cent in 1941.

Bank and finance company top management agreed that delinquencies and repossessions were at their lowest points in the last five years and were continuing to decrease.

Those attending were also in complete agreement that government controls on consumer credit would be harmful to the nation's economy. Such consumer credit controls, the group added, would have drastic effects on the productivity which is so vital in maintaining a stable economy.



"Your's is the first car that has come in with a headache!"

**GOOD parts..
BAD fluid..
DON'T MIX!**



These pistons with heavy deposits on them, were removed from new cylinders in use just a very short time. A few extra pennies per job could have prevented this!

Don't let good parts and good work be ruined by bad fluid! Only Brake Fluids formulated by a reputable manufacturer of Brake Parts carries one and the same responsibility—CONTROLLED TOP QUALITY! Don't compromise with "below standard" fluids! If you take pride in your work and your reputation, specify and use EIS—It's worth the extra pennies.



SUPER "40" BRAKE FLUIDS

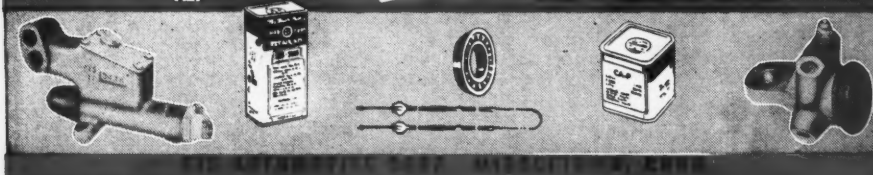
SUPER "50" BRAKE FLUIDS

Both

MEET ALL SAE SPECIFICATIONS

Recommended for passenger cars and light trucks.

Recommended for passenger cars, trucks, taxis, buses and tractors.



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NOW

Trico Rainbow Blades are Hollow-cut



This contour projection of a Trico soft-rubber blade is greatly magnified here to show the concave cut which produces two sharp edges.

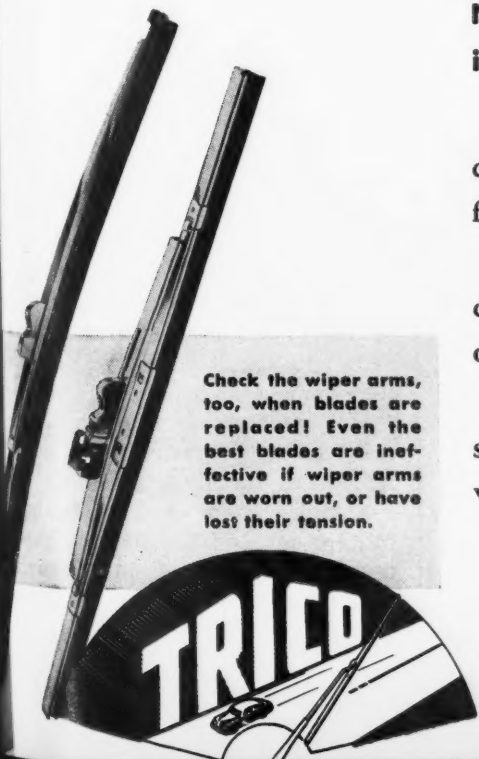
...to squeeze more water off the shield

No bevel! Two equally sharp edges give a perfect wipe in both directions.

Trico television, coast-to-coast, is picturizing the new hollow-cut blades to audiences of millions of car owners...on Rainbows for curved windshields and Triple Actions for flat.

Countless wiper blades are ready for replacement...worn and dulled by abrasive action; hardened by sun, heat, weather and oily fumes.

Multiply *your* profits by offering your customers new, live, soft-rubber Trico Wiper Blades, *now hollow-cut* to squeeze more water off the glass.



Check the wiper arms, too, when blades are replaced! Even the best blades are ineffective if wiper arms are worn out, or have lost their tension.

come

c, 1953

TRICO

Windshield Wipers

Trico Products Corporation, Buffalo 3, N. Y.

Rochester Carb Continued from Page 49

so that the distance from the air horn surface to the bottom edge of the accelerator pump plunger rod is within the recommended clearance (1 5/16 inch for Cadillac; 1 1/16 inch for Oldsmobile. (See Figure 4.)

Float Level Adjustment

This adjustment is made to

maintain steady flow of fuel to all systems under all operating conditions. A low float level will cause an overall lean mixture whereas a high float level will cause an overall rich mixture. To adjust the float level remove the air horn and turn it upside down with the gasket in place. When one float is higher or lower than

the other, bend the float arm until both floats are level. Insert special float gage in position so that the inside gage legs are located against the curved surface of the air horn. Bend the float arm at the rear until the floats just touch the top section of the gage.

If no gage is available, the dimension from the gasket to the bottom of the float pontoon is 1 9/16 inch for 1953 Cadillac and Oldsmobile; 1 3/4 inch for 1952 Cadillac; 1 3/8 inch for 1952 Oldsmobile.

Many persons on the whole are humbugged more by believing in nothing than by believing in too much. (P. T. Barnum)

Westinghouse Launches 5-Point Safety Campaign

A coast-to-coast automobile safety campaign has been launched by the Westinghouse Lamp Division. The aim of the campaign is to identify automotive-supply dealers in the minds of motorists as reliable sources of services and supplies vital to highway safety.

Keyed to the campaign is a safety-check of brakes, tires, windshield wipers, lights and batteries, with all operators of Safety-Check Headquarters pledging to conduct the five-way inspection on every car serviced every day.

A safety-check tag is snapped to the steering wheel of every inspected car, each item of the five-way check punched to assure the driver that his vehicle is safe or to warn him that it is not. A dated inspection sticker is also pasted on the door rim of each car.

The Westinghouse Lamp Division and its distributors are carrying the campaign to individual service stations and dealers, offering free promotion kits to each station manager who agrees to have his station designated a Safety-Check Headquarters.

Last year, as part of the long-range safety program, the company introduced its highway safety kit—a sealed beam lamp that plugs into the dashboard cigarette lighter to provide a handy light for night time motorists in trouble along the road.

BON-E-CON TOOLS

TOOLS any mechanic would value ...at prices anyone can afford!

- Gas station attendants
- Apprentice mechanics
- Car owners
- Weekend mechanics

Look for this BON-E-CON Display wherever fine tools are sold.

BONNEY FORGE & TOOL WORKS • ALLENTOWN • PENNSYLVANIA



Here's where it pays
to be right
with the right design

SO INSTALL... **MAREMONT**

The line with the right design... for every engine!

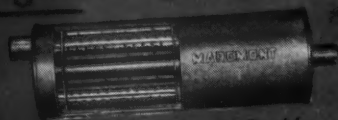
Nothing takes a beating
like a muffler!

So Check 'em, Spot 'em and
Sell 'em Maremont at the Lift!

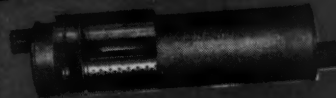
Check that Tailpipe
INSTALL MAREMONT MUFFLERS AND PIPES

CHECK THAT MUFFLER
INSTALL MAREMONT MUFFLERS AND PIPES

Here's how! Put up these
inspection-reminder stickers on
the lift... wherever you
service vehicles. Write for
yours today!



Double-Wrap Oval—Double
shell and 3-pass design for
"bush" performance! For Ford,
Chrysler, Studebaker, etc.



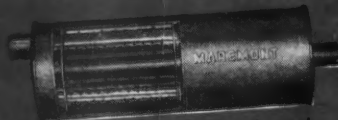
3-Pass Round—Shell sealed with
special locked, diagonally-
crimped seam for longer life.
Used on older cars with greater
road clearance.



Multi-Ribbed Double Shell Oval
—Hundreds of staggered ribs in
both shells... creating sound
deadening air pockets. For Ford,
Plymouth, etc.



**High-Compression Straight-
Thru**—New tone-wall design
eliminates unpleasant sounds.
Conical cushion chamber and
double wrapping prevent shell
noise. For Buick, Olds, etc.



4-Ply Asbestos Wrap—3 steel
and one asbestos—with all 3
steel pipes spun into heads, fully
protecting asbestos insert. For
Chrysler, Olds, Cadillac, etc.



Straight-Thru Truck Muffler—
Tone-tailored one-piece straight-
thru tube, including inlet and
outlet extensions, removes stress
from end caps and body.



MAREMONT MUFFLERS

The right design... for every engine!

MAREMONT AUTOMOTIVE PRODUCTS, INC. Chicago 8, Illinois

PACKARD'S

... designed for



PACKARD



Why is Packard the news-story of this automotive year? . . . Because—never has any manufacturer undertaken a program that has developed so much spontaneous interest and resulted in so much *action*. Everywhere . . .

throughout America . . . the word is—*Packard Is Going Places!*

Packard is returning to its traditional position in the prestige, fine-car market with the magnificent new Packard . . . America's new choice in fine cars. Packard is set to further strengthen its position in the medium-price field with the beautiful new Clipper.

Packard's New Program has been greeted with enthusiastic acclaim by its old dealers—who find their profit opportunities have taken on new

Now... Ask the Man

New Program

dynamic distribution!



CLIPPER

life. New Packard dealers are pleased at the manner in which the acceptance trend has been so suddenly re-channeled to Packard. These things don't *just happen* . . . not today!

Packard's decision to re-establish Packard in the fine-car field has been met with gratifying response by old and loyal Packard customers . . . friends who remember Packard as the national preference when more Packards were registered

than any other fine car in every state in the Union. They welcome the return of Packard's superb *craftsmanship* . . . for only Packard-built cars have *Packard craftsmanship*.

And now, with the introduction of the luxurious New Packard and its companion car, the Clipper, Packard's New Program offers progressive dealers their opportunity to move to the front.

PACKARD MOTOR CAR COMPANY • DETROIT 32, MICHIGAN

Who SELLS Them!

GM Windshields Continued from Page 65

of the corners must be worked out so as not to bend the bolts or tear the rubber. Mark the location of the ends of the chrome molding and the location of the corner piece holes on the rubber and the adjacent painted surface.

After making sure that the rubber molding which carries the glass is not held at any point except along the bottom, take a

screwdriver and a block of wood about $\frac{3}{8}$ inch thick. Working inside the car, lay the block against the upper corner of the windshield and exert the screwdriver in between the rubber lip and the pinchweld. Attach the end of the screwdriver under the edge of the pinchweld and pry down until the handle touches the wooden block. Repeat this procedure gently

across the top and part way down the sides so that the lip of the rubber molding is free of the pinchweld and the glass is forward of its metal pinchweld frame about two inches.

On the outside of the car insert the screwdriver in a reveal molding spot near one end. Work the screwdriver so as to release the hook of the molding from behind the glass and remove the chrome reveal strip. (N.B. The side strips will have to be slid out from under the lower moldings which are not to be disturbed.

Use a putty knife to break the seal between the rubber molding and the outside edge of the glass all the way around. Work the rubber molding off the windshield or all along the top and as far down each side as is convenient. Life the glass out of the lower portion of the rubber molding.

Clean the glass channel all around so that there is nothing left which might prevent the new glass from seating all around. Coat the lower channel and the lower channel corners with sealer. Coat the channel all around with liquid soap. Coat the slots for the reveal molding as well as the lip of the rubber molding with liquid soap.

Fit the new glass down into the lower glass channel, being careful to center it in the opening. Work the rubber molding back into place over the sides and top of the new glass.

Reinstall the reveal moldings, being careful that the ends line up with the marks made at disassembly. Feel through the rubber to check the hooks of the chrome straps are seated.

Lay the assembly back into the metal pinchweld opening and pry the lip of the reveal molding back over the pinchweld. Have someone push in on the outside surfaces of the moldings and check that the rubber lip is firmly seated.

Place the corner pieces, being careful that the chrome strips are caught in their slots. Tighten the corner piece retaining nuts just enough to give a smooth appearance. Replace the garnish moldings and the job is done.

WHEREVER LEAKPROOF, PRESSURE-TIGHT CONNECTIONS ARE REQUIRED . . .

AYE! IT'S THRIFTY, TOO!

A SOLDER SEAL TRADE MARK PRODUCT

TiteSeal

GASKET & JOINT SEALING COMPOUND

Hoot mon . . . it's the choice of engineers, mechanics and maintenance men throughout the Automotive and Aviation industries. Famous for its sure, safe sealing performance on hundreds of gasketing applications . . .

TITE-SEAL is impervious to gasoline, oil, water, ammonia, glycerine, steam, gas vapor, exhaust fumes and most hard-to-hold liquids. Withstands extreme temperatures; will not shrink, crack or crumble.

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A FAST DRYING HARD SETTING LEAK PROOF SEAL FOR THREADS AND JOINTS

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THE FLEXIBLE NON-HARDENING LEAK-PROOF SEAL for MACHINED JOINTS and GASKET APPLICATIONS

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LIQUID AVIATION TYPE NON-HARDENING GASKET & JOINT SEALING COMPOUND

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Work **EASILY, SAFELY**...use

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HEAVY-DUTY LOXOCKETS

For those bigger Nut Turning jobs!

Heavy-Duty
Loxockets are
 $\frac{3}{4}$ " Drive.
Socket range,
 $\frac{3}{4}$ " to $2\frac{3}{8}$ ".

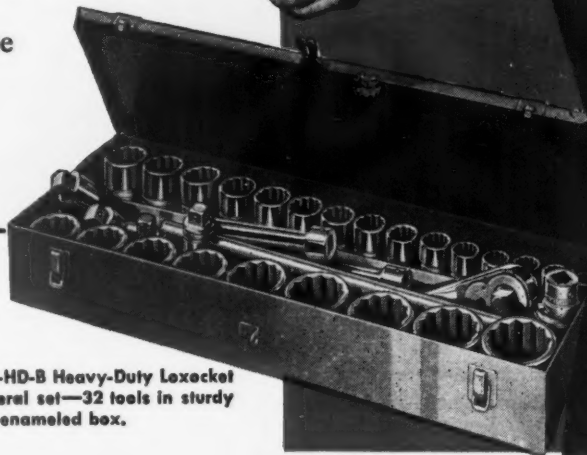
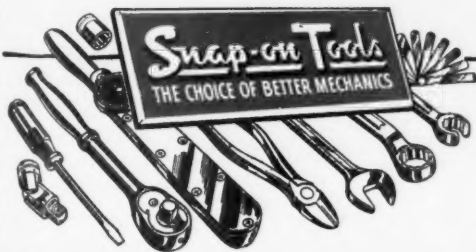
Here are the wrenches for handling the big nuts on trucks, tractors, buses. Here's *versatility—speed—safety* that every good mechanic appreciates! Here's the *extra* power that helps him do the job easily and efficiently... helps get those working vehicles back on the payroll in less time!

Snap-on Heavy-Duty Loxocket wrenches provide the right handle and socket combination to service large, hard-to-reach nuts... leverage to break tight ones loose... strong, thin-walled sockets to fit into close quarters... positive button locking of units to give the security of a one-piece tool.

Your Snap-on Man will gladly demonstrate the tools that will make *your* shop operations more profitable. For new 104-page catalog "U," write

SNAP-ON TOOLS CORPORATION

8036-H 28th Avenue • Kenosha, Wisconsin



432-HD-B Heavy-Duty Loxocket general set—32 tools in sturdy red enameled box.

*Snap-on is the trademark of Snap-on Tools Corporation

➔ **PERFECT** ➔ **WHEEL WEIGHTS** **FIT & STAY PUT**



The Double **3-Point Suspension** does it!

PERFECT Wheel Weights are made with a larger radius than the rim, so that when applied they create constant pressure at points 1-2 and 3 (shown above in top photo). Bearing points to prevent "rocking" are also formed at points 1a-2a and 3a (shown in small illustration).

Such a DOUBLE 3 point suspension principle prevents slipping—"rocking" and loss of weights. PERFECT'S "stay put"—they give SATISFACTION. That's why they're the world's largest selling wheel weights.

This principle applies to both the "C" and "U" type Perfect Weights.



"U" Type

Fits all passenger cars made before 1949 which had either E or F type rims. Still gives satisfaction on most cars manufactured up to present time. Made in the following sizes: 1/2- 1- 1 1/2- 2- 2 1/2- 3- 3 1/2- 4- 4 1/2- 5- 5 1/2- 6-ounce.



"Special" Type

Made for all late model Cadillacs equipped with large chrome hub caps covering the entire wheel. Made in the following sizes: 1/2- 1- 1 1/2- 2- 2 1/2- 3-ounce.

PERFECT EQUIPMENT CORP.

804 W. Morgan St. KOKOMO, IND. P. O. Box 706

Manufacturers of Passenger and Truck Wheel Weights — Coil Spacer Rings — Caster Shims.

Chrysler

Continued from Page 43

bine and impeller.

The basic gearbox contains two planetary gear sets, two bands, one multiple disc clutch, and a control system composed of nine control valves.

The lube oil system of the assembly holds 12 qt. of automatic transmission oil Type A with change intervals at 20,000 miles. Oil pressure for the combined oil system is furnished by either the front or rear gear pump, depending on car speed. Part of the oil is fed to the control system, part is circulated through the torque converter, oil cooler, and transmission lubrication system.

Oil enters the torque converter assembly through an annular hole at the rear side of the overrunning clutch and leaves through a similar hole at the front side. It then proceeds through tubing to the oil cooler at the forward end of the engine. Cooling water is drawn from the radiator and returns to the engine water pump.

Executive: "Where's my pencil?"

Secretary: "It's behind your ear."

Executive: "Come, come, I'm a busy man. Which ear?"

(Exhaust)

Upon leaving the oil cooler, oil is fed to the gear box. From the return line, oil is led to a large hole through the center of the front end of the output shaft and back end of input shaft. Small holes in the input shaft direct oil to all parts of the direct clutch and planetary gear sets requiring lubrication. Oil slingers are provided to assure full lubrication of planet gear needle bearings.

Both front and rear transmission bands as well as the multiple disc direct clutch are actuated by hydraulic means. The direct clutch is applied by admitting oil under pressure into the piston chamber. It is released by action of its spring when oil pressure is removed. A ballcheck valve is incorporated in the clutch piston chamber to vent any oil remaining

(Continued on page 100)

WHEN
BATTERIES
ARE
THIRSTY...



...Call for the New

NO. 84 EDELMANN

BREAK-PROOF

**BATTERY
FILLER**



Brand New Design! New Flexible Material!

Every detail engineered for easier, faster battery servicing!
Large top opening designed for holding hydrometer. Light weight
makes carrying easier — perfectly balanced even when full.

New safe-grip bottom prevents slipping or scratching.

Made of new resilient Polyvinyl Chloride — tougher, more
rugged than rubber! Resists acid . . . oil . . . chemicals . . . extremes
of heat and cold. One-piece molded construction eliminates
seams — won't crack or break.

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**WONT BREAK,
CRACK OR TIP**

- HOLDS MORE THAN A GALLON
- EASY COMFORT-GRIP HANDLE
- LONG FLEXIBLE HOSE FOR
HARD-TO-REACH BATTERIES
- TOUGHER THAN RUBBER
- MOLDED-IN SOCKET
FOR HANGING HOSE

**CHOICE OF 4
SPARKLING COLORS!**

when the clutch is disengaged, thus preventing possibility of clutch drag. Centrifugal force unseats the ball when there is no oil pressure.

Front and rear bands are engaged or disengaged by action of the kickdown and reverse servos, respectively. The kickdown servo applies the front band through a

mechanical linkage when the kick-down rod assembly is forced down by oil pressure in both throttle and line pressure chambers. Smooth engagement of the kick-down piston when shifting from neutral to either low or drive is assured by the action of the cushion spring.

The reverse servo also is actu-

ated hydraulically by admitting oil under pressure into the servo chamber. However, initial engagement in reverse is cushioned by hydraulic action between the reverse servo piston and piston sleeve rather than by a spring as in the case of the kickdown servo.

Once the driver has selected the desired driving range, the hydraulic control system or brain unit automatically takes over, determining which band or clutch to apply, when to apply it, and how fast.

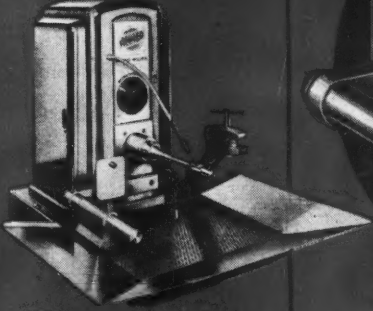
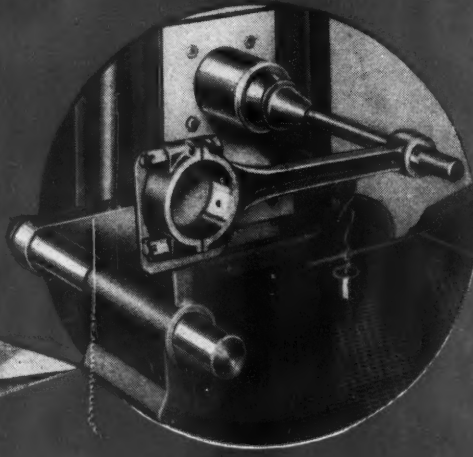
Oil pressure is furnished by the front gear pump, which rotates at engine speed. The rear gear pump, connected to the transmission output shaft, remains inoperative when in neutral. After leaving the front pump and front pump check valve, the oil pressure is regulated at 90 psi by the regulator valve. Oil pressure is further reduced to 60 psi by the converter control valve before entering the torque converter. From there, the temperature of the oil is reduced in the oil cooler before it is fed to the transmission lubrication system at 15 psi.

When in the Drive Range, upshifting into direct drive from low is accomplished through the use of a shift valve which directs oil to the direct clutch piston chamber and to the off area side of the kickdown servo, simultaneously engaging the direct clutch and disengaging the kickdown band.

The shift valve is the core of the brains provided by the control system, since it determines the proper car speed for upshifting the transmission to direct drive. At light throttle, the upshift occurs at relatively low speeds for quiet, economical performance. At moderate to heavy throttle, however, the upshift is delayed until higher speeds are attained, providing faster acceleration.

Selection of the proper time for upshifting is made possible by two signal pressures: throttle pressure, which is proportional to throttle opening, and governor pressure, which is proportional to car speed.

(Continued on page 102)

**Fit and Align
at the
Same Time
with
AMMCO
HONING
MACHINES**

MODEL 2500
WET HONING MACHINE

Most connecting rods are not bent or twisted enough to need straightening — when the pins are fit on an AMMCO HONING MACHINE. Hone them to a precision fit and, when checking, you will find the bearing and bushing ends of the rod are parallel — all in one easy operation. Save time. Prevent troubles caused by straightened rods resuming part of original distortion after pinfitting.

Dual operation is performed by holding journal end of rod against patented sliding guide. Face of guide and Honing Head are at perfect right angles. Heavy construction assures permanent accuracy. Write us for a demonstration in your own shop.

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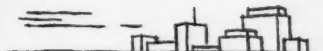
AMMCO TOOLS, INC.

2102 COMMONWEALTH AVENUE NORTH CHICAGO, ILLINOIS

How would you
like a customer
like this?



SEATTLE, WASH.



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"...just completed a 4,000 mile trip from Newport News, Va., to Seattle, Wash., on one change of WOLF'S HEAD. The engine performance was smooth with added power."

This man is *sold*. If he were *your* customer, you'd have his steady oil change and service business month after month. And he'd steer plenty of friends your way.

Brand loyalty is strong among users of WOLF'S HEAD Motor Oil. When you sell a customer once, WOLF'S HEAD keeps him sold. It provides richer, tougher, longer-lasting lubrication, and complete protection against power-robbing sludge and corrosive acids.

WOLF'S HEAD Motor Oil provides *all three*: 100% Pure Pennsylvania, Specially Refined and Scientifically Fortified to meet the requirements of all makes of cars and all types of service. *It cleans as it lubricates!* Sell WOLF'S HEAD and no one will outsell you on quality!

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OIL CITY, PA. • NEW YORK 10, N. Y.

WOLF'S HEAD

MOTOR OIL AND LUBES

100% Pure Pennsylvania
Scientifically Fortified



Member, Penna. Grade
Crude Oil Association

Governor pressure acts on one end of the shift valve, while throttle pressure and spring force act on the other end. When governor pressure becomes great enough to overcome the opposing forces due to throttle pressure and the shift valve spring, the shift valve moves to the upshifted position, allowing line pressure oil to pro-

ceed to the off side of the kick-down servo and to the direct clutch. At light throttle, a low governor pressure at a correspondingly low car speed is sufficient to accomplish this, but at heavy throttle, a high car speed is necessary before governor pressure is capable of overcoming the high throttle pressure.

Once the shift valve initiates an upshift, a built-in snap action prevents the possibility of any hunting. The shift valve remains in the upshifted position unless the driver intentionally downshifts, or the car speed drops below 11 mph.

Placing the selector lever in the Low Range locates the manual valve so that oil at line pressure (90 psi) is directed to the shift valve, forcing it to remain in the downshift position regardless of car speed. The vent lines from the direct clutch and the kickdown servo "off" area are open to the sump through the shift valve, while oil from the manual valve actuates the apply side of the kickdown servo. The transmission therefore stays in low gear.

From the standpoint of field service, it is recommended that oil level be checked at 1000-mile intervals. Oil supply is to be replaced every 20,000 miles, draining being accomplished by removing both the oil pan drain plug in the bottom of the gearbox housing and converter oil plug. The transmission is refilled through the dipstick tube with five quarts of oil; then the engine must be run at idle speed for about two minutes before adding the last seven quarts.

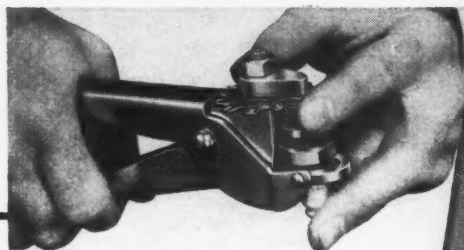
Although the front and rear bands do not require periodic adjustment check, they should be readjusted if at any time they appear to cause improper shifting. The front band, which is most apt to require adjustment, has an adjusting screw conveniently located outside the transmission housing. The rear band adjusting screw is accessible after removing the transmission oil pan.

Careful design has simplified maintenance operations when such work becomes necessary. Both the regulator and converter control valve are accessible from outside of the transmission housing. The other control valves in the valve body assembly, located in the oil sump, may be removed as a unit. Similarly, the input shaft, planetary gear sets (except the front planetary sun gear) and output shaft also may be removed as a unit.

**Does two things—
at the same time!**



Herbrand's No. GT-10 GAP SETTER for spark plugs



A brand new tool that gauges and sets the spark plug gap in one easy operation. It's fast . . . it's accurate . . . it's automatic. Herbrand's No. GT-10 Gap Setter gives a uniform parallel gap for a fatter, surer spark, assuring quicker starts and smoother running motors.



Precision made spring steel gauge wheel has ten large, easy to read numbers. Thickness gauges from .022 to .040 cover all spark plug settings.

Mechanic's net \$3.95



The tool line with turnover—
not leftovers!

Herbrand Tools

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THE BINGHAM-HERBRAND CORPORATION



The No. GT-10 is
Herbrand's Tool-of-the-
Month selection for
August. See it at your
Herbrand distributor or
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VAN-CHROME TOOLS

... the finest money can buy!

**His car's not ready
and there's no air
to finish the job**

**What we need
is a new Westinghouse
Air Compressor**



MAYBE the compressor's too small for all the equipment to which it must supply air . . . maybe it's just worn out. Whatever the cause, the old compressor is responsible for an unhappy customer.

You can prevent situations like this with a new Westinghouse Air Compressor. From the wide range of models available, you can select one with adequate capacity for all your present air-operated equipment and some to spare for new tools you may add.

Years and years of dependable service are built into Westinghouse Air Compressors through such exclusive Westinghouse features as *low oil level protection* that keeps the compressor from pumping air unless oil is at the proper level, the *positive starting unloader* that prevents loading until rated motor speed is attained, and *controlled pressure lubrication*. They are only a few of the features that put sturdy, reliable Westinghouse Air Compressors in a class by themselves.

Get full information from the Westinghouse Air Compressor dealer listed in the classified section of your telephone directory. When you need service, your dealer is always available.



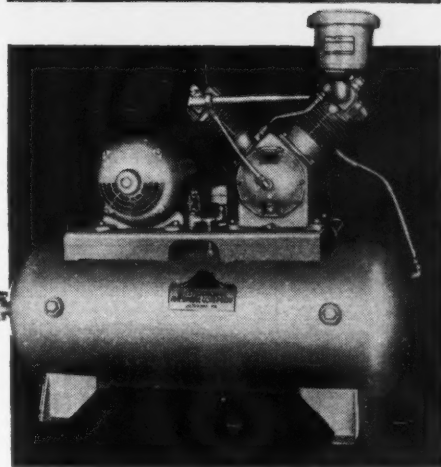
Westinghouse Air Brake COMPANY

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Factory Branch: EMERYVILLE, CALIF. Distributors throughout the United States... Consult your Classified Directory. Distributed in Canada by: Canadian Westinghouse Co., Ltd., Hamilton, Ontario.

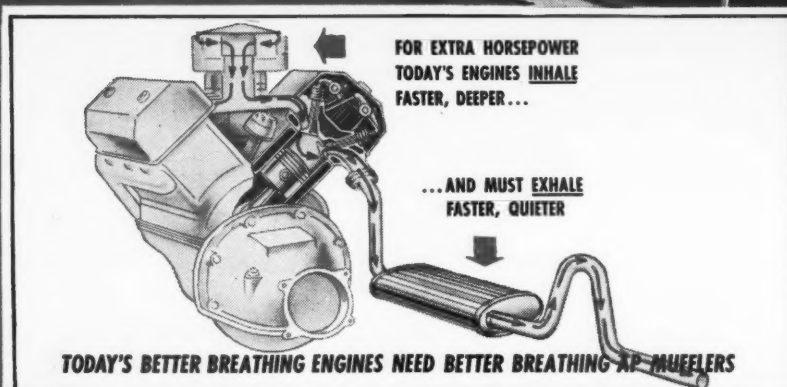
Chilton's MOTOR AGE, August, 1953



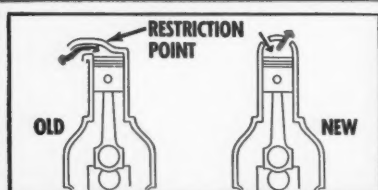
INSTALL THIS DEPENDABLE WESTINGHOUSE "Y" AIR COMPRESSOR

Whether your air requirements are large or small, there's a Westinghouse "Y" in the proper size to handle the job. These two-stage, two-cylinder compressors are available in sizes from 1½ hp with 7.4 c.f.m. displacement up to the big 15 hp model with 68 c.f.m. displacement. They'll give you high pressure for the jobs that require it, and, with addition of a Westinghouse Reducing Valve, fixed low pressure for jobs like spraying or polishing.

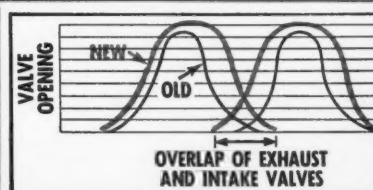
Engineers Increase HP by Improving Engines Better Breathing AP Mufflers Exhaust Air Intake Quiet



Increased power of today's engines is due to one basic change—getting more air-gas mixture into the cylinders. In short, they breathe deeper . . . must exhale faster. That's why AP Mufflers have been redesigned to breathe better . . . to exhaust this greater quantity of gas silently and with less back pressure.



New engines breathe deeper because larger bores and valves allow more air flow and because overhead valves remove restricting angles of L-type heads, permit both incoming mixture and exhaust to get in and out faster.



Camshafts have been redesigned so that exhaust and intake valves are open longer at the same time, thus causing tremendous "run-down" noises and creating new muffling problems—which have been solved by better breathing AP Mufflers.



This decal will identify you as the specialist which national advertising has told motorists to depend on for muffler service.

More *horse* power

More *sales* power

with

AP

Engine Breathing Exhaust Greater Quietly, Freely

Take a deep breath, hold it, then exhale sharply. Hard to control the sound, isn't it?

That's a simple explanation of why modern engines need modern AP Mufflers.

These engines get their extra power by breathing deeper—swallowing larger gulps of air-gas mixture. When they exhale, the larger quantity of faster moving gas hits the mufflers with a bang, bigger valves boom, longer overlap between the opening of intake and closing of exhaust valves adds more noise. Result: new silencing problems, more back pressure.

But AP has solved both problems. How? By "fenced-in" silencing—dead air spaces which absorb shell noises; by short chambers to kill valve boom; by larger, scientifically positioned low frequency chambers to quiet overlap sounds; by larger inner tubes to exhaust the increased gases quietly and freely.

Yes, better breathing engines need better breathing AP Mufflers. So keep pace with car improvements—call your AP wholesaler today.

THE AP PARTS CORPORATION
1584 AP Building • Toledo 1, Ohio
Manufacturers of: MUFFLERS • PIPES • MIRACLE POWER • dqt 123



Engineering Highlights

Continued from Page 39

Special attention is drawn to the reporting of figures on automatic transmissions for the first six months of 1953. Generally speaking, it would be wise not to make telling comparisons with 1952 percentages until returns are in for the entire year. This is due to a complex of factors. Although it is a foregone conclusion that the use of automatic transmissions is on the increase, the lower figures for 1953, where they occur in several instances, result from delays in delivery of drives rather than lack of interest on the part of buyers.

In the case of Dodge Div., the apparent decrease in the installation of automatic transmission is due to an entirely different circumstance. It so happens that for 1953, Dodge offers a variety of transmission options, including overdrive in several combinations. The effect of this has been to reduce the number of manual shift cars quite markedly, but also at the expense of some automatic drives.

In the case of Kaiser the sharp increase in automatic transmission use does not imply a larger volume of use as compared with last year. It is a result of reduced production, relatively, owing to supplier difficulties, coupled with the building of most cars equipped with HydraMatic drive. These have combined to mark the sharp increase over 1952 percentagewise.

At Buick the only reason for the drop in automatic drive installations on 1953 Specials is that with increasing volume of production they have been unable to build Dynaflows in sufficient numbers to keep up with demand.

AUTOMATIC TRANSMISSION AND POWER STEERING IN PERCENTAGES OF CAR PRODUCTION BY MAKES

	Automatic Transmission		Power Steering	
	1952	1953 ¹	1952	1953 ¹
		(1st 6 mo.)		(1st 6 mo.)
Buick Roadmaster.....	100	100	54.2	100
Super.....	96.4	98.6	.....	22.2
Special.....	61.5	51.5	.....	3.5
Cadillac.....	99	100	.....	.....
Chevrolet.....	40	40	.....	.....
Chrysler.....	99.5	98.4	45.3	40.9
De Soto.....	98	97	33	48
Dodge.....	60.9	55.3 ⁵	.....	.....
Ford.....	33	30	.....	.....
Hudson.....	60.7	58.7	.....	.....
Kaiser.....	58.6	73.6	.....	.....
Lincoln.....	100	100	50 ⁴	64.6
Mercury.....	48.4	47.9	.....	.....
Nash.....	31.7 ²	33 ³	.....	.....
Oldsmobile.....	97	99	12	45
Packard.....	72.9	83.1	.....	21
Pontiac.....	82.1	85.7	.....	11.9
Studebaker.....	22	41	.....	.....

1—Estimated for 1st 6 mo.

2—Ambassador and Statesman.

3—All Series.

4—For two months only.

5—Decrease due to increased transmission options.

Counterfeit Parts . . . Continued from Page 43

legal complications.

IF the part turns out to be "hot" the buyer may have to prove his innocence in the deal. Also, he may stand to lose possession, without recourse, of any of the material he still has on hand. In the case of counterfeit parts, he also is without recourse if they fail to stand up in service and a more

serious possibility would be court action if the failure resulted in serious damage or injury. In such an event he would lose the protection of the name brand supplier of reputable parts, and with jury awards ranging up to rather outrageous proportions in some such recent cases, that is a serious hazard. The same threat lies in the

purchase of inferior quality parts, such as rejects or inferior grade items made by unreliable firms.

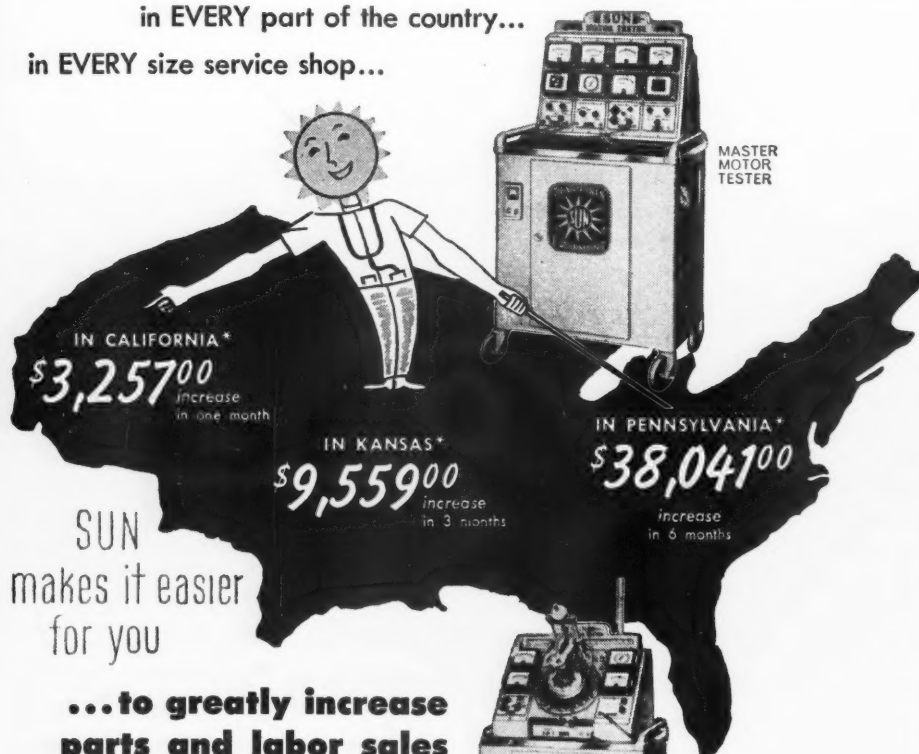
Counterfeiting of fast moving items, such as ignition points, condensers, and other ignition parts as well as some bulkier items, has long been a problem for reputable manufacturers. The gall of some counterfeiters is astounding. They not only go so far as to make an exact "Chinese" copy of the item but they stamp the brand name on it and merchandise it in an exact duplicate of the brand name manufacturer's package even down to size, color, script and location of printing.

Others do not go quite as far but pick a name so similar to the standard that the casual observer never notices the difference. Here again the package will resemble the real thing so closely in appearance as to design, color, and wording that it defies all except the closest scrutiny to tell the difference.

Another activity about which generally little is known except for occasional headlines in the newspapers is the organized theft rings which operate in automotive parts plants. These companies are understandably reluctant to discuss details but we find that such rings do exist, although energetic and determined effort on the part of management has cut such losses to a fraction of what they used to be. Some of the case histories are

(Continued on page 108)

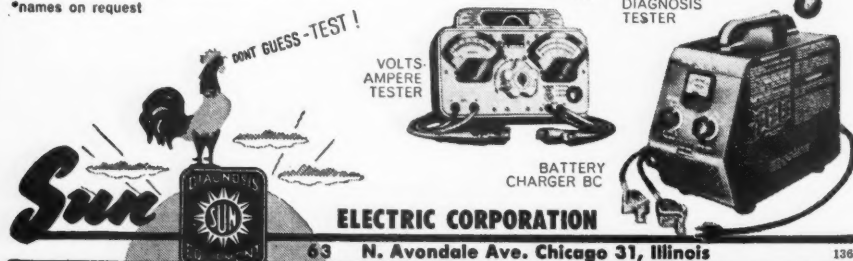
in EVERY part of the country...
in EVERY size service shop...



The use of SUN Scientific Automotive Testing Equipment can result in a remarkable increase in needed labor and parts sales as indicated in these examples selected from among thousands of dealers and service shops all over the country. Just as important is the customer confidence gained through the elimination of costly comebacks and chronic complaints. Your SUN Equipment gives the service salesman an extra selling tool that helps him to show the car owner exactly where, why and how needed repairs should be made. The SUN Line is complete—enabling any dealer or service shop to have exactly the right units to fit his shop needs. Newly engineered 6-12 volt equipment is now available or your present equipment, through the SUN Modernization Program, can be quickly converted to serve vehicles of both voltages. Talk to your nearest SUN Representative or write TODAY directly to SUN.

send for the New SUN Scientific Automotive Testing Equipment CATALOG

*names on request



"I asked that kid to bring me a gasket . . ."

You'll Winterize more Fords this year

if you let these star salesmen work for you

Genuine Ford Anti-Freeze and Batteries can bring your shop more Ford service jobs this fall—Here's why:

Another powerful, nationwide Ford winterizing campaign will break this fall and Ford owners everywhere will be ripe for cold weather "change-overs."

A good share of this seasonal volume could land in your shop . . . if you're set up for it. Right now is the time to put in a supply of Ford Anti-Freeze and Batteries.



Then, don't just stack them away on your shelves. Give them prominent display.

When Ford owners see that you carry Genuine Ford Products for their special needs, they'll be easier

to sell complete winterizing jobs . . . and you'll profit accordingly.



Why wait till the season is well under way? Phone your local Ford dealer. Tell him you'd like some Genuine Ford Anti-Freeze and Batteries. Do this today!



Tested to go at 30 below! Ford Batteries are tested to start at temperatures that cold! They're also shake-tested, dust-tested, and cycled from full charge to full discharge 275 times. This testing that Ford engineers give them is assurance that a Ford Battery is designed to "take it" in your customers' Fords.

Ford Permanent Anti-Freeze is specifically developed and tested to be best for a Ford's cooling system. One filling lasts all winter in a properly working cooling system; and it contains a rust-inhibitor. Ford Permanent Anti-Freeze exceeds the rigid safety requirements of the Bureau of Standards.

Ford Regular Anti-Freeze gives safe, dependable cold-weather protection to Fords at low cost. Tests prove that it gives more anti-rust protection than similar types. And it needs checking only occasionally during the winter. It's a member of the Ford-tested winterizing team!

Display this sign

The Genuine Ford Parts Oval is a "come in" sign to Ford owners. They know that this sign means Genuine Ford Parts. And that means a shop that is set up to give Fords the best possible service.



MAIL THIS COUPON!

Get full information on how to get a business-building Ford Parts Oval.

PARTS AND SERVICE SALES DEPARTMENT

Ford Division, Ford Motor Company, Box 658, Dearborn, Mich.

Please send me complete information telling me how independent garages can get a Genuine Ford Parts sign. I'd like to cash in on this, too!

FIRM NAME _____

INDIVIDUAL'S NAME _____

ADDRESS _____

CITY _____ STATE _____

H

Counterfeit Parts . . . Continued from Page 106

of "Dragnet" caliber involving exhaustive investigations to track down the offenders through the tangled web of collusion, conniving, and elaborate plans.

There always is a smattering of pocket theft, particularly in small items, but they are "peanuts" compared to the organized operations carried on by rings involv-

ing collusion between an inside and outside source. Here are a few of the ways, briefly, in which these operate:

The receiving checker may be in cahoots with a truck driver. He signs for receipt of a full load, but actually lets part of it remain on the truck and go out of the plant to be sold by arrangement to a

shady outlet. This is especially true in case of mixed truckload lots.

The shipping checker, in collusion with a truck driver, assembles items on the dock and decoys the plant protection man away long enough for the driver to pick up the loot.

Someone in the accounting department of the manufacturer has a deal with the parts buyer in a dealership or jobber establishment who orders far more items than he needs. The inside accomplice catches the invoice before it is posted for billing and reduces the quantity. The surplus is sold by the parts man to other service shops or even his own employer, often through a dummy company.

Employees or former employees with fake badges secrete parts under their clothing, even using special harnesses, and walk out with them during shift changes when detection is almost impossible because of congestion.

A dock man works a deal with the truck driver to attach some item, such as a truck tire, to the vehicle in the place where a spare is normally carried and to smuggle it outside for sale.

Also, there is some actual hijacking where a truck driver will deliver a load of parts to a shady jobber for disposal.

There are many more varied and ingenious ways of pilfering parts but these serve to show the general pattern.

In connection with thefts of automotive parts, an interesting trend is developing among insurance underwriters in respect to covering inventory losses. Fidelity companies traditionally have issued coverage primarily to protect against loss of funds directly traceable to employee dishonesty. Inventory losses were not much of a problem because most companies, until recently, have not had the type of inventory control records which will support a claim for provable loss.

Breakage, price changes, and similar factors can effect a shrinkage in inventory value but are not insurable. However, with modern inventory control systems which actually can show definite pilfer-

(Continued on page 112)

**THERE'S
A BETTER
WAY IN
BEARINGS
TOO!**



... replace with HYATTS



The best way to replace an automotive bearing is with the same type of high-quality bearing as the one originally designed into the equipment. So when you replace a Hyatt in a car, truck, or bus, always use another Hyatt. Hyatt bearings for replacement are exact duplicates of the originals—the same size, the same type. Your customers get the same high quality, the same stubborn resistance to wear. And you gain more of their business. Be sure to ask for the bearings in the blue and yellow box—Hyatt Bearings. Hyatt Bearings Division, General Motors Corporation, Harrison, N. J. and Detroit, Michigan.

HYATT ROLLER BEARINGS
A GENERAL MOTORS PRODUCT  A UNITED MOTORS LINE
DISTRIBUTED BY DEALERS EVERYWHERE

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"VACATIONLAND AMERICA"
CONTEST!**

Your customers win in FRAM'S

\$12,500.00
CONTEST!

**FIRST PRIZE
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**HEY EARL... GIMME A
FRAM CONTEST ENTRY BLANK
AND CHANGE MY CARTRIDGE
WHILE YOU'RE AT IT.**

**GOT MY ENTRY BLANK FROM
EARL... GOTTA HURRY HOME
AND WRITE ABOUT MY
FAVORITE VACATION SPOT!**



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OIL • AIR • FUEL • WATER
FILTERS

Now Fram pyramids Vacationland America advertising with a powerful \$12,500.00 Prize Contest to keep motorists' interest high during peak vacation months. Latest AAA reports show these months account for 72% of highway travel. And this year's vacationers will spend around 14 Billion Dollars, 15% ahead of 1952. Get your share of profits from this staggering total. Tie in ... cash in. Ask your Fram Distributor or mail coupon. Contest soon to be announced on

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Ask your Distributor for complete details!

**Ask your Fram
Distributor or
mail coupon
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FRAM CORPORATION, Providence 16, R. I.

Please rush me details including free poster and entry blanks.

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YOU JUST CAN'T DO BETTER..





NO, YOU JUST CAN'T DO BETTER!

This set will out perform any other piston ring set in the "hard to hold" jobs regardless of kind, design or price

CHROME CONTROL LEAK-PROOF
REG. U. S. PAT. OFF.
PISTON RINGS



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helps you handle more cars daily



gets jobs in and out of the shop — in a hurry!

QUICK Servi-Car pickup and delivery pays off in bigger service profits every day. That's because it helps you handle more cars, turns parking space into work area, gets more on-the-job-time for costly equipment. What's more, fast and efficient Servi-Car service builds customer confidence in you and your work. Every pickup or delivery is actually a goodwill-building sales call.

Find out for yourself how Servi-Car is helping thousands of car dealers, garagemen and station operators build their profits. Ask your Servi-Car dealer or write for the booklet "It pays to give service."

Here's what SERVI-CAR does for you

- expands your service territory
- eliminates time-wasting car-jockeying in busy shops
- Minimizes idle time on costly service equipment
- turns parking space into work space
- reduces time for part or accessory errands
- builds goodwill through good service
- provides continuous on-the-street advertising

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HARLEY-DAVIDSON

SERVI-CAR SELLS MORE SERVICE



Counterfeit Parts

Continued from Page 108

age losses, both as to identity of the item and total quantity, theft claims are supportable and create an insurance liability which was not originally a factor. Consequently, Fidelity companies now are much more cautious and a trend away from blanket coverage and unlimited liability is becoming evident.

One large insurance company no longer will write blanket position coverage and another is changing to a maximum liability setup. The trend now appears to be toward a maximum liability coverage with a specified deductible amount applied to extended losses, which simply means full payment for proved thefts with the deductible sum applied against any further amounts calculated to have been lost but not actually provable. With this developing trend, it is doubly important for all levels of distribution in the parts industry to maintain accurate stock inventory control.

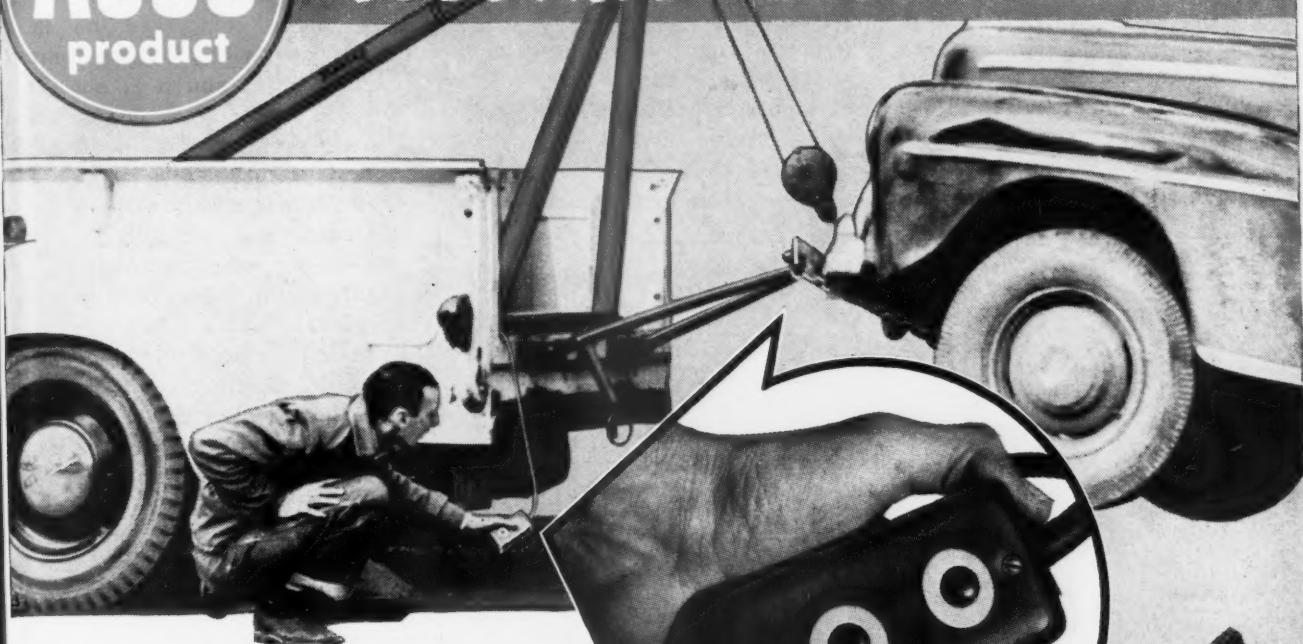
How pilfered or inferior parts get into the trade also is interesting. Here again collusion between a parts buyer and a supplier of stolen or inferior goods often is found. It may be a simple deal in which the buyer knows what he is getting and either takes a rake-off or buys the parts at a cheaper price and sells them at standard price to his employer, pocketing the difference. The parts buyer may knowingly take inferior or questionable parts on a tie-in sale in order to get certain scarce items that he needs. Or he may be overstocked on some genuine parts which he trades for inferior goods. As a result he dilutes his stock with inferior quality parts which may cause his employer no end of trouble and also, in case of a dealership, may kick back against the car manufacturer.

Obviously, one lesson here for operators of dealerships and independent shops is to keep an eye on the kind of stock purchased and also to guard against overloading on any particular item. One fantastic case we heard of

(Continued on page 114)



NEW MANLEY PD-3 ELECTRIC POWER DRIVE



• It's new and exclusive with MANLEY—the PD-3 Electric Power Drive for MANLEY WC-3 and WCJ-3 wrecking cranes. It can be bought as a separate unit for installation on any MANLEY WC-3 or WCJ-3 Wrecking Crane in the field . . . or, it can be installed at our factory on new cranes. The PD-3 makes a safe, easy one-man job of tough hoisting operations.

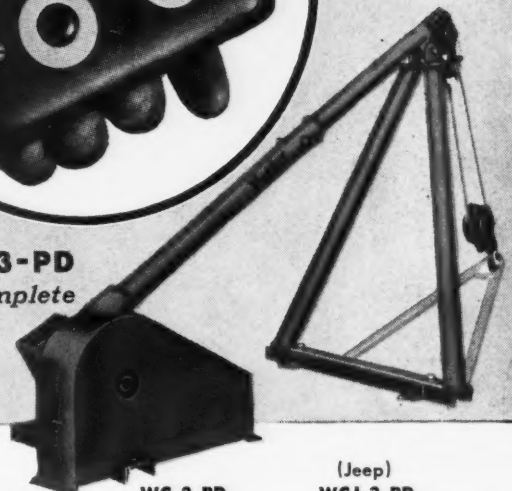
• The PD-3 consists of a sturdy, compact power drive unit with a remote, movable push-button station. Operator has finger-tip control of electrically-operated crane for loads up to 3 tons. He can raise, lower, or hold load—from any spot.

• No power take-off required. $\frac{3}{4}$ horsepower electric motor is powered by truck's 6-volt battery. Crane switch is wired in series with ignition switch to keep motor drive "dead" except when operated by authorized personnel.

• Power drive unit is completely enclosed. All gears run in oil, assuring quiet operation and maximum service life. Entire assembly takes little room. Crane can be folded back to give more hauling space.

• The MANLEY WC-3-PD complete Wrecking Crane with Electric Power Drive mounts on any open truck. It's a money-maker because it saves time and labor on every wrecking job. Send coupon today for additional information.

WC-3-PD
complete



	WC-3-PD	(Jeep) WCJ-3-PD
Width.....	37"	31"
Length.....	80 $\frac{1}{8}$ "	49"
Height.....	54"	44"
Weight.....	352 lbs.	364 lbs.
Clearance, floor space..	37" wide x 62" long	31" wide x 35" long
Cable length.....	35'	35'

MAIL TODAY

MANLEY DIVISION,
AMERICAN CHAIN & CABLE,
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Please send Bulletin **DH-397** on NEW MANLEY PD-3 Electric Power Drive for WC-3 and WCJ-3 Wrecking Cranes.

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York, Pa., Chicago, New York, Portland, San Francisco, Bridgeport, Conn.



MANLEY DIVISION
AMERICAN CHAIN & CABLE

The Best Equipped Shop Gets the Profitable Business

Counterfeit Parts . . . Continued from Page 112

involved a large dealer who had ignored his parts department over a long period and when he became suspicious and investigated found that 60 per cent of his stock was obsolete. Investigation showed that his parts manager was in the clutches of an unscrupulous group which had been buying up obsolete stock from other dealers and

peddling them to the stooge in this particular dealership.

Two major points stressed by parts industry officials to avoid getting caught with sticky merchandise is to know your source of supply and to look twice at anything offered at fire sale prices. Certainly the vast percentage of business done in the parts indus-

try is handled by legitimate honest wholesalers whether they represent car manufacturers or independent suppliers. Incidentally, automobile companies recognize that while the established and reputable independent jobber is an intense competitor he is a worthy one, with products of merit in most cases and it is not these wholesalers who peddle gold bricks. Dealing with wholesale establishments who will stand back of their merchandise is number one point

Also, any offer of goods at unusually low prices should be a red flag to the parts buyer. There is no good reason why anyone should or could peddle quality items at a price far below that established in the trade unless there is a hooker in the deal somewhere. Certainly for the risk involved as

**EXTRA VALUES
AT NO
EXTRA COST!**



**RE-NU
Accurate
CLUTCH SETS**
CONSIST OF A

BALANCED ReNu Clutch Pressure Assembly
MATCHED & MATED with a New Accurate Powerflex Plate, then both
TESTED together for full release & smooth engagement
SEALED & PACKAGED in one easy-to-handle, plainly marked carton

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FOR ALL POPULAR CARS AND TRUCKS

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MANUFACTURERS OF THE POWERFLEX CLUTCH PLATE

REPLACEMENT UNIT CO. 1505 Rockwell Ave.
Cleveland 14, Ohio

REBUILDERS OF GUARANTEED CLUTCH ASSEMBLIES



"When I said 'Throw out the clutch'"

balanced off against the apparent savings in price, it looks like a pretty bad deal in view of what could happen if the "bargain" backfires, as it most likely will do.

You don't need a Geiger counter to tick off a warning when some maverick operator gives you a pitch about "a lucky purchase" on a large lot of "genuine parts in the original factory cartons" that he can let you have at a big discount. Even if they look identical to the real McCoy, you can't tell whether they were made from worn-out bed springs or high grade bar stock. And even though they don't raise a blister when you handle them, they may be hotter than grease on a griddle, which incidentally, is where you may find yourself if you buy this bill of goods.

Because it handles so easily!



BEHR-CAT® Tape is winning friends everywhere. The strong, thin flexible crepe paper backing conforms to every contour. The correctly balanced "weather-proof" adhesive makes it easy to unroll, quick to stick and a snap to strip off. No curl-backs, tears, or peeling away of the surface finish. **BEHR-CAT** Masking Tape comes clean every time—under any weather condition or forced heat drying. See how easy **BEHR-CAT** Tape handles on your next job. Write for a sample roll. Address Behr-Manning Corp., Troy, N. Y., Dept. MA-8.

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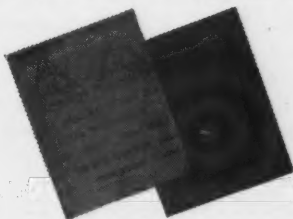
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The new wet-sanding paper that is revolutionizing hand sanding in body shops.



BEHR-CAT ADHESIVES AND SEALERS
Meet all body shop needs for adhesives, fillers, sealers, caulking compound. A complete line.

Miriam, get your salami and onion for Nick."

Turning to Pop, Jim picked up a pencil and drew twelve circles on a napkin. "Here's the way it ought to be done. You see a customer wants fourteen coffees. Say he wants four with cream. You draw one line here. He wants five with sugar only. Two lines here. Two with cream—cross lines here.

That's the way to keep it straight. Now where was I. Oh, yes, four black. No, that's not right. See what I mean? It's just too complicated. It's driving me nuts, Pop.

"Miriam, your tuna fish is ready. Miriam, Now where is that girl? That girl has dropsy and heart trouble. She drops down and doesn't have the heart to get up.

Oh, this diner business is killing me."

Pop was getting impatient. Besides, the coffee he had ordered turned up with cream, sugar, and somehow the mustard bowl had got back. "Jim," he said, reaching for a dime, "when you called last night, I thought you had car overheating troubles. Guess it was my mistake. You're just overheating under the collar."

"No, now wait, Pop. Now that you've asked me I want to tell you about that 1951 Ford of mine."

Pop waited, "Well?"

"It overheats."

"That all? Sounds simple enough. We'll have a look."

"It gets hot."

"I'll take it back with me. Where is this Ford?"

"Runs clear up into the red."

"I'll have it back in your hands in no time. Just give me the keys or else run it over yourself sometime this morning."

"Runs in the red just like my business."

Pop reached for his hat, gnashing his teeth and cursing under his breath. "Bring it over, Jim, if you want us to look at it. I'm going back to the shop."

"Never ran over the center mark before," Jim said, but Pop didn't hear. He had slammed the door and was heading south, promising himself that he would either break the coffee clatching habit or head up to the automat next time.

At 10:45 Jim and the Ford arrived, both more or less red in the face, but Pop was nowhere to be found. "Might melt out a bearing that way," Jim told Tommy. "Now put her in the black for me will you? I've got to get back to the diner now. Miriam might short change a customer." And Jim was off.

Tommy checked the fan belt tension. OK. With a strobe light he checked the timing. Good. He revved up the engine and watched the circulation through the top tank. "No need for a flow test," he thought. "The radiator seems to be taking everything the pump puts out."

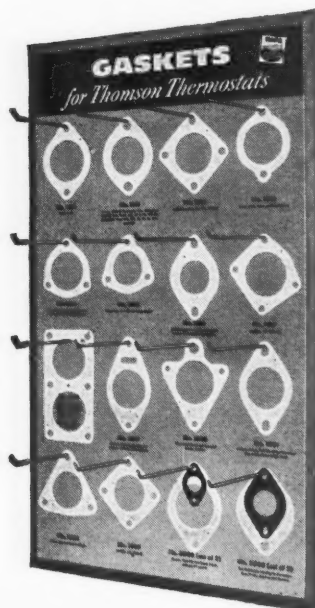
"It's probably the thermostat,"

(Continued on page 120)

Something New Has Been Added

to the most complete line in the business

With the replacement market for thermostats growing bigger year by year, the way to profit from this market is to sell the most complete and most progressive line in the business—*Thomson!* The Thomson line covers practically every car, truck, tractor, bus and engine, big and little—meets every operating condition and temperature requirement with tight-closing, trouble-free, poppet valves.



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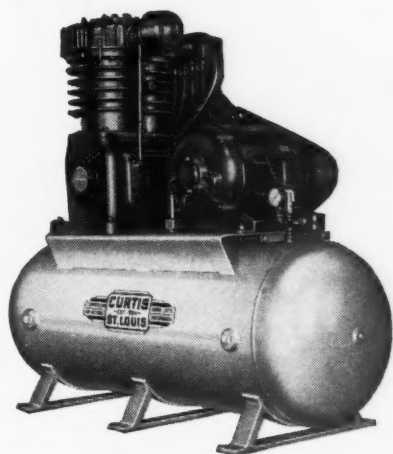
**STANDARD-THOMSON CORP.
DAYTON 2, OHIO**

Curtis

AUTOMOTIVE SERVICE EQUIPMENT

MAKES YOUR WORK EASIER...

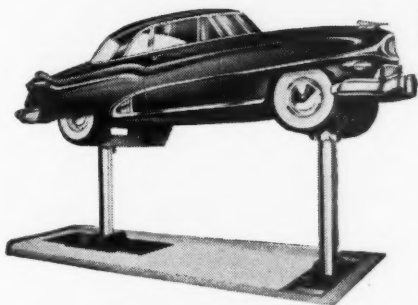
Backed by 99 years of "Know How"



Tank Mounted Air Compressors 1/4 H.P. to 15 H.P.

- Up to 78 cubic feet per minute
- Either single stage or two stage
- Timken bearings • Self oiling
- Precision built • Designed for accessibility
- A.S.M.E. tank for 200 pounds
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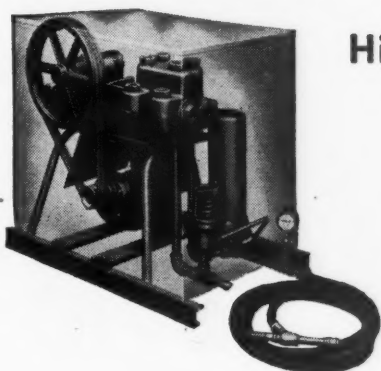
Also base mounted up to 300 cubic feet



Full Hydraulic Two-Post Shop Lift

- No long deep pit needed—saves on installation cost
- 60" wheel base; handles all cars
- 72" plunger travel • Plenty head and elbow room
- Deep front yoke for maximum accessibility
- Flush with floor when in lowered position

Also Single-Post rotating lifts and Two-Post truck and bus lifts



High Pressure Hydraulic Car Washer

- 300 lb. pressure
- Self-oiling pump • Designed for accessibility
- Brass-lined cylinders
- Quiet in operation
- Precision built

Call your CURTIS Jobber... or mail
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MAKES THE COMPLETE
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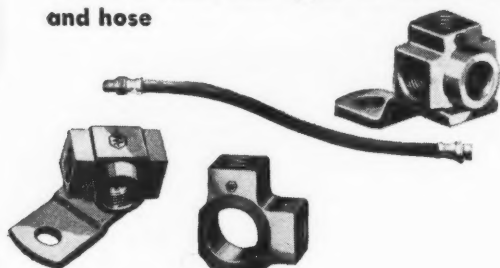


No more problems with hard-to-get parts when you carry WEATHERHEAD—the complete line. Get all the facts in Catalog J-103. Write STANDARD PARTS DIVISION, THE WEATHERHEAD COMPANY, Dept. D, 300 East 131st Street, Cleveland 8, Ohio.

Over 1500 Original

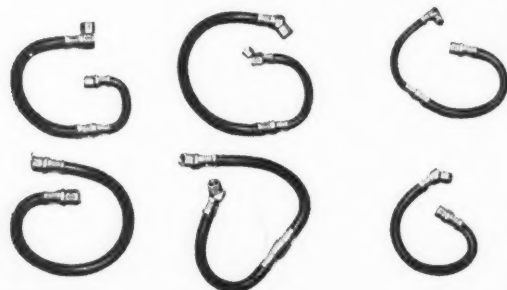
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with 107 sizes and types of brake fittings and hose



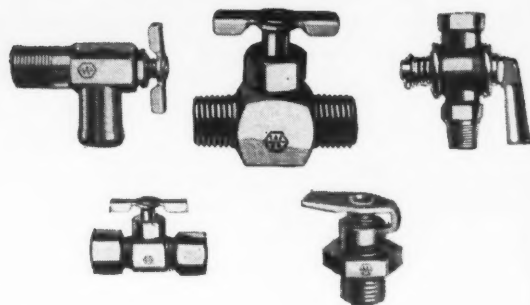
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Equipment Automotive items for **EASY** replacements

EASY DASH CONTROL REPLACEMENTS

from assortment of 24 styles and colors



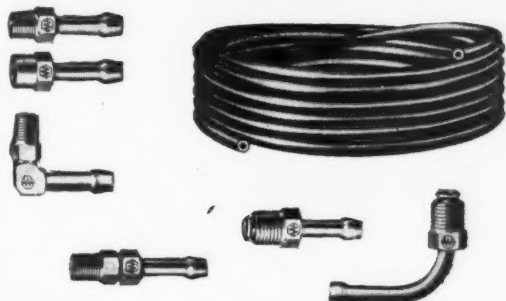
EASY FUEL LINE REPLACEMENTS

with 64 different assemblies to fit any car



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with bulk hose and 7 different types of fittings



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with 405 sizes and types of fittings



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with 85 sizes and types of heavy-duty hose, reusable ends and quick attachable fittings



EASY OIL FILTER LINE REPLACEMENTS

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The Mark of Quality

WEATHERHEAD

ON EVERY CAR!

Larry called from the inside of the Buick he was working on.

"Thanks, Pal," Tommy said. "Your wonderful analytical mind amazes me." With that he drained the coolant and made for the thermostat housing bolts. It was off before Pop stuck his head into the engine compartment.

"Well, I see you followed orders

—and then some, Tommy. Shouldn't have taken that out before you checked the water temperature. Some of you guys just love to get into the thermostat. And if it was working properly before you set your paws on it, it wouldn't afterwards. You blame the thermostat for everything from worn tires to after boil. But

go ahead and take it off now."

Tommy held up the unit in question.

"Now what are you going to do?" Pop queried. "It is free from mechanical defects, not bent or worn."

"Test it in water. See where it opens," Tommy suggested heading for the quart container and a blow torch.

While Tommy made the test Pop examined the heat indicator unit. "This has been installed recently," he mused. "Looks as if this is not the first of Jim's overheating troubles. Now why didn't he give me the history of this animal?"

"Thermostat's wide open at 180 right on the button," Tommy called. "Got any more bright ideas, Larry? So far we're batting pretty low."

"You're at bat, son," Larry challenged. "I didn't tell you to remove the thermostat. I supposed you would check the water temperature with a thermometer before you went into such detail."

"This banter isn't getting us anywhere," Pop growled. "Suppose you suggest the next step, Tommy. Let's see how good you are at diagnosis."

"Well, there's only one thing left. Tear off the water pump."

Pop winced. "Easy now. Easy. How about the temperature gage?"

Tommy was agreeable. "Two bits it's cablooney," he said.

"I don't know whether its cablooney, but I know it's electrically-operated. Does that give you a clue?"

"Maybe the battery is down." Tommy was reaching for it now. He was stumped, but he wouldn't admit defeat.

But Larry was all ready with the voltmeter, and Pop sighed with relief. "Well, I see you're on the ball, Larry. And I think you've found the trouble. Show Tommy what you are doing and let's try to impress the boy so he'll remember that a high voltage drop can affect an electrically-operated temperature gage."

"Well, son," said Larry triumphantly, "I'm going to check for excessive voltage drop in the primary circuit, since as Pop said, the tem-

(Continued on page 122)

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HOT SPRAY HEATERS!

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High-Speed Fleet model, uses original gallon container, features Paint-Ready Indicator and Thermostatic Control. Plus \$7.50 Weston precision thermometer.

\$49⁹⁵

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Hot Water Recirculating
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Defrosters extra

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BIG VOLUME PERFORMANCE. King-size core with fins soldered fast to the tubes. Powerful 7-inch, 8-blade fan moves 150 cubic feet of air per minute. Recirculates ALL the air in car or truck cab every 2 minutes.

FINEST DEFROSTING. The big fan moves a powerful current of air directly to inside of windshield—at the rate of 30 cubic feet per minute. Assures clear vision in any weather.

GREAT SPACE SAVER! Every corner and angle has been pruned down to make a comfortable fit for small or odd-shaped spaces—especially important for late model passenger cars and all trucks.

FAST, EASY INSTALLATION. Superb functional design makes the Arvin 200 a "breeze" to install in either car or truck. Leaves plenty of clearance where space is important!



MODEL 300 Finest Fresh Air and Recirculating Hot Water Heater

Fits Chevrolet and Pontiac 1949-53; Ford 1950-51 and (with Installation Kit F-52) 1952-53 Ford models.

Heats 2 ways—with outside or recirculated air. Installs to car's fresh air duct in 90 minutes. Extra powerful defrosting. Special foot warmer. In summer, acts as a cool air circulator and prevents fogging of windows.

List price only

\$49.95

Packaged complete with defrosters and fittings (Kit for 1952-53 Fords \$4.95 extra). Liberal Dealer Discount.

See your Arvin Distributor

ARVIN INDUSTRIES, Inc., Columbus, Indiana

perature gage is connected into this circuit on this particular car."

"Yes, but why does excessive resistance cause the temperature gage needle to act like an ammeter when the engine is revved up?" Tommy queried.

"You tell him, Pop."

"Well, it's like any poor ground in a circuit. When there is high

resistance, it takes more voltage to push the amperage across the gage contacts, and with a higher amperage draw you get more heat which registers on this type meter. Now the same thing is true when there is resistance between the regulator base and its mounting. At high speeds you will get high voltages because when the voltage

regulator is operating, the dwell of the contact points automatically increases to compensate for ground circuit resistance. So you get headlight flare and overcharging of the battery because of inaccurate voltage control."

"Go on, Pop, I'm conning you but I need an example."

"Suppose there is .3 volt drop in the regulator ground circuit. The regulator may be set accurately at 7.4 volts, but that doesn't mean that's what you're going to get. You will get 7.4 plus .3 or 7.7 volts across the battery, and you will have headlight glare, and pretty soon you won't have any lamps at all."

Larry had connected up the voltmeter meanwhile between engine and body. Sure enough he found a voltage drop of .6 volt. "And we're only permitted .1 drop here," he told Tommy.

"What do you suggest, son?" Pop queried.

"Let's slip on a ground strap. This car never used a ground between body and engine. When new and everything was clean, that was ok. But a tight connection will keep Jim Barnaby out of this kind of trouble again."

At 4:30 Jim Barnaby of Barnaby's Diner (where good food is served quickly but the coffee is rotten) came for his car. He was in a better frame of mind now that the ten o'clock rush was only a dim memory. He was able to concentrate a little better on the problem at hand.

"Why, yes, I've had plenty of guys look at that Ford," he told Pop. "And look at it is all they did. Why, they were as confused as Miriam."

Pop shook his head. There wasn't much else to do.

"You know I paid out three different bills to get that overheating fixed. First place charged me \$1.50 for a new thermomthing plus \$4 in labor. Next place stuck me for \$3.75 labor charge and there wasn't one degree improvement. And another shop slapped a bill down for \$21. I think they put in a new heating system or something."

"If these shops would only take time to make precision tests with
(Continued on page 126)

THE 'THREE KNOWS' OF



AVAILABLE

You know you can get Neapco when you want it. All three lines — Universal Joints, Chassis Parts, P.T.O. Joints — are strategically warehoused for your Neapco Jobber. He has a complete stock at his fingertips.

GUARANTEE

You know Neapco's famous unconditional guarantee. It's back of each line. You're sure of every part in every Neapco Orange box. You can always sell with confidence.

CORRECT FIT

You know Neapco fits correctly... saves time at installation. Correct design, fine materials, accurate manufacturing account for it. Add them up, and you get superior quality at competitive prices.

These are the three things a mechanic wants for fast satisfactory servicing. You get them all with Neapco . . . so ask for Neapco, always.

Universal Joints...P.T.O. Joints...Chassis Parts

NEAPCO PRODUCTS INC. • POTTSTOWN, PA., U.S.A.

CURIOSITY STUNG A BOY

A wayward bee ... 500 turkeys ... a big city bank.

Mix them all together, add a pinch of curiosity,
and you know why Pete couldn't help being
a successful automobile dealer.

Reading time: 1 minute, 39 seconds

PETE has a restless curiosity. It led him from the farm to the big city and ultimately back to the farm. It carried him from honey to turkeys to bank accounts to cars.

And wherever his curiosity took him, Pete's drive and ambition made him successful. His Dodge-Plymouth Dealership is one of the most prosperous in his area.

In 1920, Pete's sales career was launched by a bump of curiosity that was red, angry, and itchy. It was a bee sting. On Dad's farm, Pete, 14, scratched reflectively.

"I decided then that all I knew about bees was that they stung," Pete said, "I wanted to know more."

With characteristic energy, Pete developed an apiary. Within a short time, he was bottling honey under his own label and selling it door to door. Pete was impressed by his success. He turned his attention to larger livestock—

—turkeys. Again he did things in a big way. He soon was chaperoning a flock of 500 gobblers, which he killed, dressed and delivered to a hungry clientele.

"I had discovered," he said, "a sales secret which still is paying off. You've got to believe in what you are selling. You can't be negative, because it reaches the customer. Transmit enthusiasm, and remember a good deal isn't a good deal unless it's good for both parties."

But all wasn't honey and white meat for Pete.

"I wanted to know how people other than farmers lived," he declared. "I could hardly wait to tackle the big city."

As soon as he was graduated from high school, he headed for a big city bank. He attended night school to learn more about banking. Soon he was soliciting savings and commercial accounts and working as a teller.

"It gave me a chance," he reported, "to meet people and to know I could be friendly with them." One customer was so impressed with the friendliness which Pete radiated through the teller's window, she married him.

But Pete's curiosity began to itch again.

"Ever since I had bought a Chrysler 72 Roadster with my farm money," he pointed out, "I had concluded that the automobile was the core of our economy. I decided to give my theory a whirl."

He approached a dealer suffering from financial malnutrition during the early depression days. In exchange for a partnership, 25-year-old Pete offered his sales ability and banking experience. The offer was accepted.

Two years later, Pete became a Dodge-Plymouth Dealer, opening his showroom on Jan. 1, 1933, a gloomy depression



holiday. If he was aware of the dark predictions made for new businesses that year, he didn't show it. He sold 202 cars in nine months in a town of 6500. His organization—now numbering 40 persons—has prospered since.



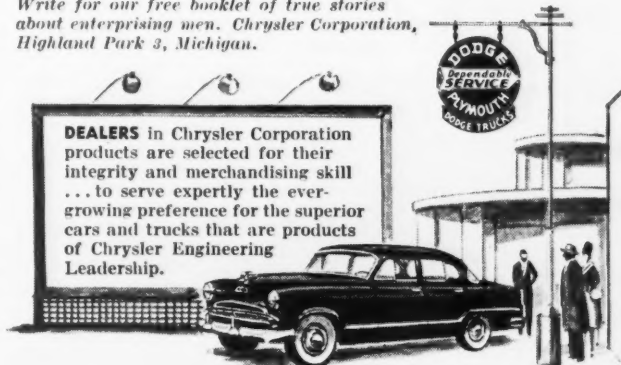
"To start big," Pete recalled, "I advertised as much as possible and set up a plan of personal contact and telephone calls which still is part of our daily routine."

Pete's hobby is a beautiful 1100-acre farm. The curiosity which led him off the farm led him back again.

"I love and respect the soil," he explained. "You never really own the soil—you're just the custodian of it. I wanted to see what I could do about conservation for the sake of future generations."

Future generations never had such an energetic friend.

Write for our free booklet of true stories about enterprising men. Chrysler Corporation, Highland Park 3, Michigan.



PLYMOUTH • DODGE • DE SOTO • CHRYSLER & IMPERIAL CARS • DODGE "JOB-RATED" TRUCKS
FINE CARS OF GREAT VALUE

CHRYSLER CORPORATION

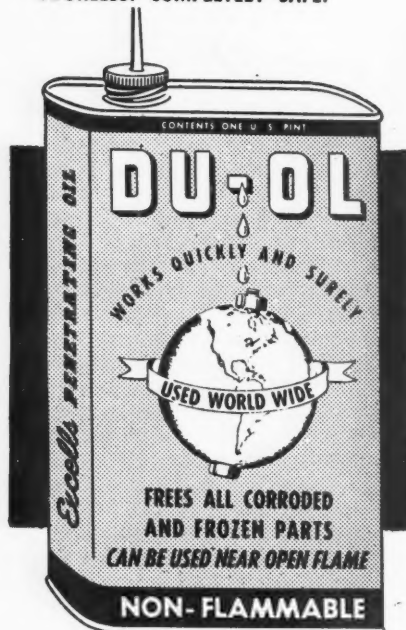


New! Different! Sensational!

DU-OL does all!

The LIQUID TOOL

DU-OL IS THE PERFECT PENETRATING AND ANTI-SQUEAK FLUID FOR RUBBER-TO-METAL ACTION PARTS. NON-FLAMMABLE! NON-TOXIC! ODORLESS! COMPLETELY SAFE!



- DU-OL meets all Government, State and Municipal Safety Requirements!
- DU-OL works quickly and surely in freeing all frozen and corroded parts (I.E.—helps to remove OLD Mufflers within 15 minutes. Also frees up Heat Risers.)
- DU-OL will not irritate the skin—is the ideal LIQUID TOOL to have available at all times!
- DU-OL is non-injurious to rubber.

A Product is known by the Companies it serves. Among the firms using and re-ordering DU-OL are: U. S. Navy, U. S. Govt., Westinghouse Electric, Todd Shipyards, TWA, Mack Truck, Pratt & Whitney, National Gypsum, American Machine & Foundry, etc.

RUSH THIS COUPON TODAY!

SUPERSITE CORPORATION
384 Canal Pl., N. Y. 51, N. Y.

- ☐ Please have your representative call.
☐ Please send me descriptive literature.

NAME.....

ADDRESS.....

CITY.....ZONE.....STATE.....

See your jobber or write for details to

SUPERSITE CORPORATION
384 Canal Pl., New York 51, N. Y.

Calendar of Coming Events

Dealer Meetings

Aug. 23-25—Automobile Dealers Assn. of West Virginia, Greenbrier Hotel, White Sulphur Springs, W. Va.
Sept. 9-10—N.H.A.D.A. Granledde Hotel, Lake Sunapee, N. H.
Sept. 11-13 — Maine Automobile Dealers Assn., Somerset Hotel, Rockland, Me.
Sept. 13-14—Colorado Automobile Dealers Assn., Broadmoor Hotel, Colorado Springs, Colo.
Sept. 13-15—New York State Automobile Dealers Assn., Saranac Inn, Saranac Lake, N. Y.
Sept. 13-15—Wyoming Automobile Dealers Assn., Irma Hotel, Cody, Wyo.
Sept. 14-15—Automobile Dealers Assn., of North Dakota, Patterson Hotel, Bismarck, No. Dak.
Sept. 17-19—New Mexico Automotive Dealers Assn., La Fonda Hotel, Santa Fe, New Mexico
Sept. 20-22—Wyoming Automobile Dealers Assn., Irma Hotel, Cody, Wyo.
Sept. 20-22—Kentucky Automobile Dealers Assn., Phoenix Hotel, Lexington, Ky.
Sept. 21-22—Wisconsin Automotive Trade Assn., Hotel Schroeder, Milwaukee, Wis.
Sept. 21-22—Minnesota Automobile Dealers Assn., St. Paul Hotel, St. Paul, Minn.
Sept. 21-22—South Dakota Automobile Dealers Assn., Aberdeen, S. D.
Sept. 24-25—New Jersey Automotive Trade Assn., Hotel Traymore, Atlantic City, N. J.
Sept. 26-29—A.A.D.A., Inc., Arlington Hotel, Hot Springs, Arkansas
Sept. 27-28—Georgia Automobile Dealers Assn., Biltmore Hotel, Atlanta
Oct. 2-3—Kansas Motor Car Dealers Assn., Hotel Town House, Kansas City
Oct. 3-5—Arizona Automobile Dealers Assn., Hotel Westward Ho, Phoenix
Oct. 4-6—Texas Automotive Dealers Assn., Texas Hotel, Fort Worth
Oct. 7-9—National Used Car Dealers Assn. convention, Hotel Statler, Detroit
Oct. 9-10 — Pennsylvania Automotive Assn., William Penn Hotel, Pittsburgh
Oct. 11-13—Mississippi Automobile Dealers Assn., Buena Vista Hotel, Biloxi, Miss.
Oct. 13-16—Federation of Automobile Dealers Assn. of Canada, Royal York Hotel, Toronto, Ontario
Oct. 17-19 — Arizona Automobile Dealers Assn., Hotel Westward Ho, Phoenix, Ariz.
Oct. 18-20—Tennessee Automotive Assn., Buena Vista Hotel, Biloxi, Miss.
Oct. 22—Connecticut Automotive Trades Assn., Inc., Hotel Bond, Hartford, Conn.
Oct. 25-27 — Automobile Dealers Assn. of Alabama, Buena Vista Hotel, Biloxi, Miss.
Oct. 25-27 — Florida Automobile Dealers Assn., Sheraton-Beach Hotel, Daytona Beach
Nov. 9-11—Automotive Trade Assn. of Virginia, John Marshall Hotel, Richmond

Nov. 9-11—Ohio Automobile Dealers Assn., Hotel Commodore Perry, Toledo
Nov. 13-14 — Montana Automobile Dealers Assn. Convention, Finlen Hotel, Butte, Montana
Nov. 18-19—Oklahoma Automobile Dealers Assn., Mayo Hotel, Tulsa
Nov. 30-Dec. 2—Idaho Automobile Dealers Assn., Boise Hotel, Boise, Idaho
Dec. 3—Utah Automobile Dealers Assn., Newhouse Hotel, Salt Lake City
Dec. 4—Oregon Automobile Dealers Assn. Convention, Multnomah Hotel, Portland

Automobile Shows

Feb. 20-28, 1954 — Second Annual World Motor Sports Show, Madison Square Garden, New York City.
Mar. 13-21, 1954—Chicago Auto Show, International Amphitheater, Chicago.
Apr. 17-25, 1954 — Seattle Auto Show, Seattle Civic Auditorium, Seattle, Wash.

Fair Exchange . . .

"Why haven't you mended the holes in these socks?" he demanded.

"You didn't buy that fur coat I wanted," replied his wife, "so I figured that if you didn't give a wrap, I didn't give a darn."

You can place your confidence in the same source of supply used by leading car factories and industrial and heavy-duty engine manufacturers.

FELT PRODUCTS MFG. CO.
1504-14 Carroll Ave., Chicago 7, Ill.

Chilton's MOTOR AGE, AUGUST, 1953

"You can INCLUDE ME OUT!"



Maybe I learned the hard way, but now I *know*. Buying "specially priced" or "bargain" thinners and reducers is a sucker play! Today I buy one thing, and that's *uniformity*! That's why I never gamble—use only Martin-Senour thinners and reducers. They're **FACTORY-PACKAGED** and **FACTORY-SEALED**. I know what I'm getting and the performance I can expect. And I know when I promise my customers satisfaction in a paint job, they're going to get it! When it comes to taking chances with "bargain sale" thinners and reducers, you can "include me out!"

MARTIN-SENOUR THINNERS AND REDUCERS INSURE UNIFORM PERFORMANCE, TWO-WAY PROTECTION

M-S Lacquer Thinners

6286—PREMIUM THINNER for top quality results. Recommended when the smoothest possible finish is desired.

6295—"GENERAL USE" THINNER—medium drying. Recommended for all 'round shop use with lacquer colors and undercoats.

6298—FAST DRYING THINNER—economical price. Often preferred for undercoats.

M-S Synthol Reducers

8001—FAST DRY—Recommended for cold weather use and where conditions require fast drying.

8002—FLEET REDUCER—Slow drying. Recommended for fleet and commercial work.

8004—SYMETRO-FLOW—Amazing flow without retarding dust free or drying time.

See Your N.A.P.A. Jobber for Martin-Senour Thinners and Reducers

MARTIN-SENOUR

2520 South Quarry Street, Chicago 8, Illinois



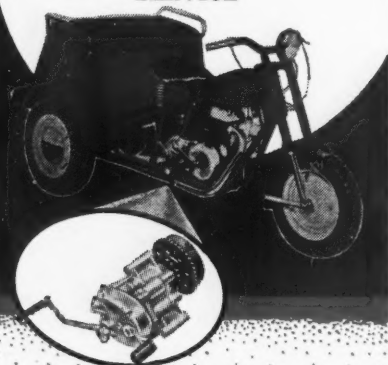
Factory Packaging ... the only Positive Control from Factory to Finisher



new 4 Speed TRANSMISSION

makes the
**Mustang
DELIVERCYCLE**

more rugged than ever for
**PICK-UP and DELIVERY
SERVICE**



MUSTANG DELIVERCYCLE'S new 4-speed Burman wide range ratio heavy duty transmission means greater load capacity plus longer life, trouble free performance. The Mustang DELIVERCYCLE offers low operating cost . . . minimum service and replacement . . . low initial investment . . . and most important of all, increased profit. Complete rider control minimizes possibility of accidents and the amazing accelerating power provides easy traffic maneuvering.

PERFORMANCE
MAXIMUM SPEED: 40-45 MPH
POWER OUTPUT: 9.5 H.P.
COMPRESSION RATIO: 6 to 1
GAS-MILEAGE: 50 Miles per Gallon

EXCLUSIVE MUSTANG FEATURES

- ✓ load spring suspension
- ✓ shock absorbing telescopic front forks
- ✓ low center of weight for stability

ADJUSTABLE TOW BAR FOR AUTO-MOBILE PICK-UP AND DELIVERY



Automobile Dealers
Service Stations
Garages

THE UTILITY OF A BIG MACHINE
AT HALF THE OPERATING COST

For full information on Mustang DELIVERCYCLE "penny-saving" features write

MUSTANG MOTORCYCLE CORP.
635 West Colorado Boulevard
Key: M A Dept. 105, Glendale 4, Calif.

Pop O'Neill . . .

Continued from Page 122

accurate equipment," Pop said, "instead of relying on intuition. Now nobody has accurate intuition but my wife—I think—and her diagnosis of my gall bladder trouble is often wrong—I think."

"Well, I don't like Miriam's insinuation either," Jim said. "She hints to the customers that I make her nervous so she can't draw circles to keep track of the cream and sugar."

"You know, Jim, hardest thing we've got to get across in this business is accuracy. It doesn't take time to take care, but try to tell some mechanics that . . ."

"That's right, Pop. Can't keep track of the change if we aren't accurate. That's what I tell the girl."

Pop looked pained. "Your car's ready, Jim."

"Say, Pop, you've got the knack of getting people to do things right. Come over and have a talk with my girl. Tell her about precision work."

"Thanks, Jim. Think I'll stick with more inanimate if less interesting things. Here's your key."

"Precision workmanship. That's what I'll tell her. Take a lesson from Pop O'Neill, I'll tell her. He never makes mistakes—and he never lets his help make one."

"Pop, you've saved my life. You've given me an inspiration. Tell you what. You come in, have coffee every day. Give my girl a tip like you do your men—and the coffee's free. Coffee's on the house, just like I said."

Pop pinched his left cheek until it hurt. "Goodbye, Jim," he muttered.

Well, Pop did not get to the office next day. His wife called to say he had had another attack of gall bladder trouble. And the next day, when Tommy asked him to bring four cartons of coffee, two with sugar, two black, Pop just seemed to give up with a painful moan. They took him home. He should be back next week. Doctor says it's a case of coffee nerves, but then again it might be only gall bladder trouble.

Always **TOP PERFORMERS**



"Aero-Seal" HOSE CLAMPS



Worm Drive
Never Works
Loose

People applaud the way AERO-SEALS keep a tight, leakproof, vibration-proof connection. No pinched or damaged hose — and the clamp won't come loose or snap open, no matter how rugged the service. Easy, one-hand installation. Screwdriver or thumb clamp. The precision worm gear drive does the trick, and AERO-SEALS can be used again and again. Stainless steel bands, 4 sizes cover 90% of needs. AERO-SEALS are your profit pals!

See your local jobber

"Aero-Seal"®

WORM DRIVE
HOSE CLAMPS

ANOTHER **BREEZE** PRODUCT

BREEZE CORPORATIONS, INC.

41 South Sixth Street, Newark 7, N. J.

The most important merchandising package* in retailing history



*To be opened (and used) by you 

The Saturday Evening Post's m

Here's a new way you can capitalize on the proved selling power of the Post. Here is a merchandising kit designed for your store and based on the popular, sales-producing seal of a Post Recognized Value. Use it to increase sales of all the Post-advertised products you sell. It's free for the asking! Just fill out the coupon and you'll receive this colorful display kit containing...

- Window posters
- Easel-backed display cards
- Post Recognized Value stickers
- String tags
- Post product stickers
- Post logotypes for reproduction
- Tested ad-merchandising ideas



- 1.** Display Post posters on your windows. Tell passers-by you're head-quarters for Post-advertised brands.



- 4.** Handy string tags tell customers at a glance: here is a Post Recognized Value.

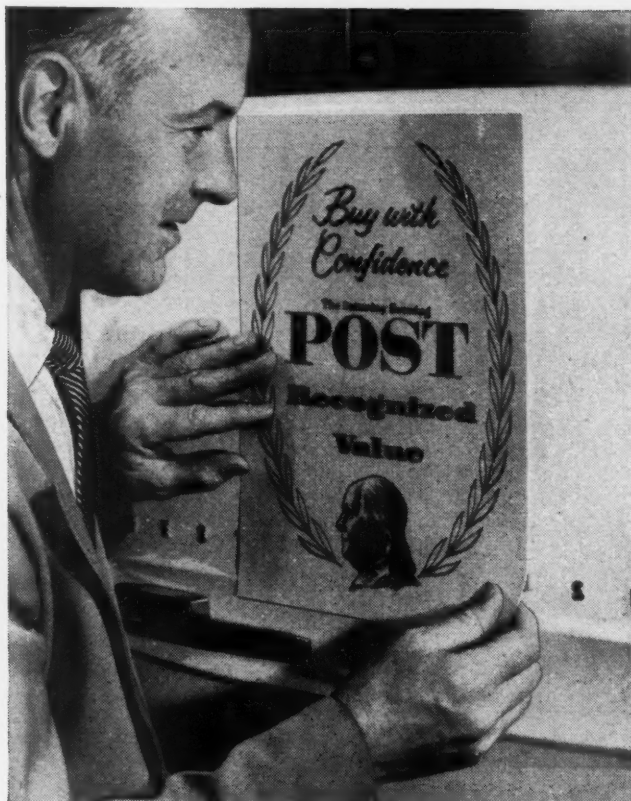


- 5.** Give your Post-advertised products a boost. Put these stickers on packages and displays.

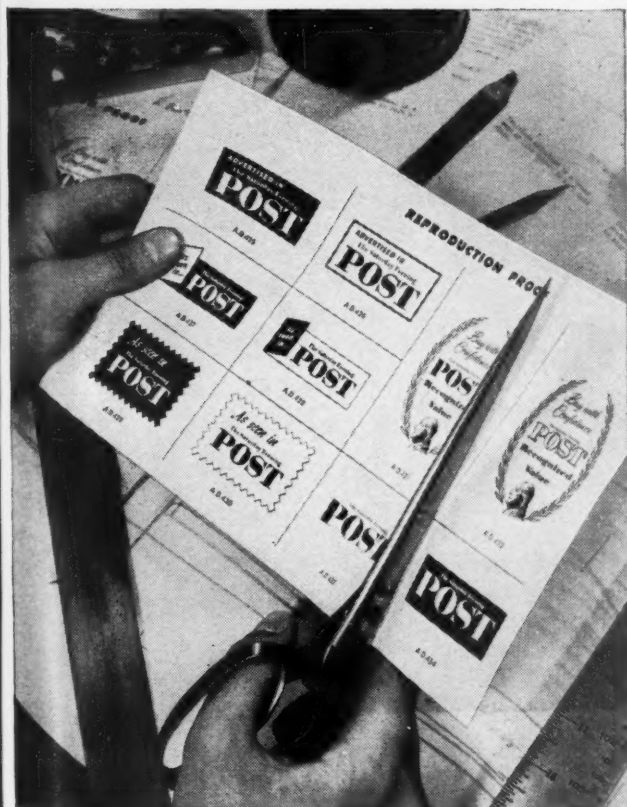
s new free merchandising kit



- 2.** Use Post ads. Paste them on these easel-backed cards for excitement at point of sale.



- 3.** Add a plus to products and show merchandise with these Post Recognized Value stickers.



- 6.** Use Post selling power in your newspaper ads. Cut out logotypes or write us for mats.

**America's greatest
merchandising magazine**

**The Saturday Evening
POST**

A CURTIS PUBLICATION

—gets to the heart of America

MAIL COUPON TODAY! Don't miss out. Just send us your name and address. We'll send you your free sales-making Post merchandising kit immediately!

Merchandising Department, Room D-4
The Saturday Evening Post, Philadelphia 5, Pa.


Please send my FREE Post merchandising kit for the promotion of Post-advised products.

Name _____

Title _____

Store Name _____

Address _____ City _____ State _____



*"Commercial Credit Plan
invaluable in volume
accounts such as ours"*

says MR. JOSEPH LEVY, SR., President of
Walton Motors, Inc., veteran Chrysler-
Plymouth Dealer in Chicago, Illinois

FOR THE past 24 years, this 53 year old house has relied on COMMERCIAL CREDIT PLAN to meet its financing needs. Previously, Walton Motors managed their own financing, but as Mr. Levy, the third generation in his family to operate the business, commented:

"In serving a vast metropolitan area like Chicago you can't afford to be limited by the extent of your own resources or restrict operations to the local scene. With COMMERCIAL CREDIT's unlimited resources and nationwide facilities, we find our needs are ade-

quately handled and we enjoy an added advantage in selling transient business."

Today thousands of car dealers like Mr. Levy rely on COMMERCIAL CREDIT PLAN day after day, year after year, in both good times and bad. Most of them regard the COMMERCIAL CREDIT PLAN as one of their most valuable selling tools. To find out how COMMERCIAL CREDIT "know-how," resources and personnel can help you, just call or write your nearest COMMERCIAL CREDIT office. Ask to see "The Salesman's Angle" when you do.

COMMERCIAL CREDIT DEALERS ARE *Successful* DEALERS



**COMMERCIAL
CREDIT
CORPORATION**

A service offered through subsidiaries of
Commercial Credit Company, Baltimore
... Capital and Surplus over \$135,000,000
... offices in principal cities of the United
States and Canada.

*The Most Ingenious Ratchet
Design in a Decade!*

NEW

COMPACT • STRONG • REVERSIBLE

New Britain **FLEX RATCHET**

A TWIST OF THE WRIST

and the NEW BRITAIN Flex Ratchet reverses. Just rotate the handle either left or right, and the ratcheting action is in the direction you want it.

TO ESCAPE OBSTRUCTIONS

... Simply raise the Flex Ratchet Handle and go to work. It's that simple.

FOR SPARK PLUGS

... Loosen the plugs with Ratchet in horizontal position, then raise it to vertical and spin 'em out.

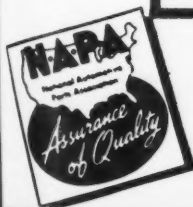
HERE'S THE FIRST REALLY PRACTICAL NEW RATCHET DESIGN IN MANY YEARS. . . . A BIG help in work on modern cars and aircraft engines where clearances are often only fractions of an inch. You can work in many inaccessible places with this new $\frac{3}{8}$ " Square Drive Reversible Flex Ratchet.

Here's a Tool, only 7" long, compact enough to fit into close quarters, yet long and powerful enough for adequate leverage. Modern head design eliminates overhang, whether at right angle position or tilted to escape obstructions. Especially useful in easy access to differential drain plugs. In fact, there are scores of places under the hood on modern cars and trucks where it offers the only quick and really practical means of getting at and around obstructions to many accessories and parts. Ask your Jobber about this great new Ratchet today.

New Britain

GREATER STRENGTH • BETTER FIT
THE NEW BRITAIN MACHINE CO. • NEW BRITAIN, CONN.

HAND-TOOLS



THE SEAT COVER DESIGNED WITH THE DEALER IN MIND



Howard Zink

AUTO SEAT COVERS

THE BEST KNOWN, best liked, most asked for seat covers in the world!

EASY TO SELL because national advertising reaches over 30,000,000—helps pre-sell customers right in *your* market! *Only* Howard Zink seat covers are backed by continuing, full-scale national advertising.

EASY TO SELL because of long-established reputation and acceptance. Your prospects *know* Howard Zink; know Howard Zink products are made better to last longer. And year after year Howard Zink seat covers are the style leaders!

EASY TO INSTALL because Howard Zink seat covers are hand fashioned; fit perfectly, right from the start.

A COMPLETE LINE—a style for every car; for every prospect, every budget.

SEASONAL MERCHANDISING PLANS—traffic building promotions, point of sale helps and "how to sell" manuals get you *more customers...more profits!*

☆ ☆ ☆

Find out how the new Howard Zink seat cover program offers dealers bigger things for '53. *Write today!*

THE HOWARD ZINK CORPORATION

Fremont, Ohio

Passaic, N. J. • Long Beach, Calif. • Charleston, Miss.

BACKED BY OVER 36 YEARS' EXPERIENCE





it's **YOUR**
profit-move
 with **AUSCO**



TTrue, selling jacks isn't as simple as playing checkers. However, you still have to keep one jump ahead of the other fellow.

Selecting the right jack to fit your servicing needs also is a move that requires more thought than deciding which men to maneuver on the checkerboard!

Here's why we say, "whether you sell jacks or use them, make *YOUR Profit-Move* with AUSCO":

COMPETITIVELY PRICED—investigate AUSCO's low prices that keep you a jump ahead of competition.

HIGHEST QUALITY—every AUSCO Jack is made 100% by AUSCO... from castings to finely-machined hydraulic pistons... in the world's most modern jack plants... backed by multi-million jack-building experience for America's foremost car and truck factories.

COMPLETE LINE—hydraulic or mechanical, re-sale or service use, $\frac{3}{4}$ to 20-ton capacities... and a full line of hydraulics with extra-high lifting range.

UNCONDITIONAL PRODUCT WARRANTY—this applies to every jack that comes off an Ausco assembly line.

Look over the formidable array of Ausco Jacks shown here, then make your Profit-Move with Ausco... start by sending for your free copy of Ausco's 1953 Jack Catalog, No. 153A, which contains many other models not pictured here.

AUTO SPECIALTIES MFG. CO., Dept. MA-8, St. Joseph, Mich. Other Plants: Benton Harbor and Hartford, Mich., Windsor, Ont., Canada

U.S. Patent Nos. 2,630,296; 2,630,296 and 2,637,523 B-302

"So easy to sell... *clean vs dirty!*"

Easy Enough to show your customers the why-and-wherefore of Purolator's low-cost insurance against engine wear.

1. Just show motorists dirty refills from their engines...

2. Explain how a clean Purolator traps the stuff that does damage—keeps it out of oil stream, away from bearing surfaces.

And once does it! After that show a dirty refill now and then! In fact, keep a card file—to make sure you don't miss!

Chances are you'll make sales most every time, because...

3. MOST makes of cars, trucks, buses and tractors are factory-equipped with Purolator Micronic* Oil Filters.

2. ALL MAKES of filter-equipped cars take Purolator* Refills.

3. TESTS PROVE that Purolator traps more dirt, finer dirt, faster... leaves valuable H-D additives in!

(Think of it! You're 100% COVERED with one make oil filter... Purolator!)

Easier TOO to sell in summer! Motorists drive more... filters clog faster... have to be changed oftener.

Two Sales—Two Profits! Every Purolator sold means the sale of an extra quart of oil to take the place of the dirty oil thrown out with the dirty filter.

*Reg. U. S. Pat. Off.

PurOlator

World's finest **OIL FILTER**

**A dirty filter...
a few ounces
of abrasives...can ruin
an engine in no time**



PUROLATOR PRODUCTS, INC.

Rahway, N. J. and Toronto, Ontario, Canada.

Chilton's MOTOR AGE, August, 1953

Smart Looks!

● Beautiful New Low Contour Design!

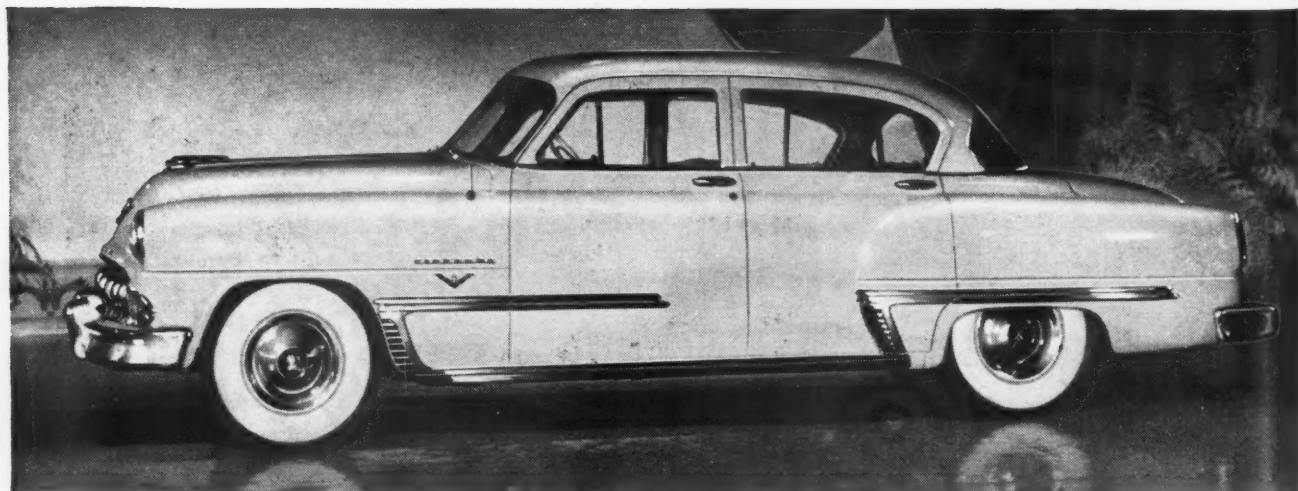
Smart Value!

● A Score of Extra-Value Features At No Extra Cost!

Smart Buy!

● Production is Up and Prices are Down!

DE SOTO



160 H. P. FIRE DOME V-8 and POWERMASTER SIX

Where on this map do your sales come from ?



The shaded areas are where Country Gentleman carries advertising into *more* homes than The Saturday Evening Post . . . 2,162 counties (of the 3,071 U. S. total) where Country Gentleman circulation is greater than Post circulation.

In fact, in nearly 2 out of 3 counties, Country Gentleman has more circulation than *any* weekly, women's or home service magazine!

In *all* counties—wherever your business comes

from—the Post will sell your best *city* customers . . . you need advertising in Country Gentleman to sell your best *rural* customers.

SO REMEMBER: When a manufacturer says "It's advertised in Country Gentleman", he is giving you important selling support in a lot of homes no other kind of magazine reaches—the prosperous rural homes right in your own local trading area!

A C U R T I S P U B L I C A T I O N

*Sells your best rural customers...
the customers other magazines miss*

CIRCULATION NOW OVER 2,500,000



Soundmaster FITS

...NOT 1,
NOT 2, BUT
ALL 3 WAYS!



1 ACOUSTICAL FIT

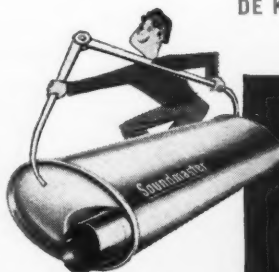
Every time you hear the sour sound of a worn-out muffler, fix it quick... install a Soundmaster! Soundmaster Mufflers are designed to control the noise on *specific* makes and models. With

unsurpassed scientific equipment, Soundmaster engineers each muffler for control of not only total exhaust noise, but also the individual, irritating sounds which occur at different speeds and loads. On any car, for *full range* noise control, get a Soundmaster from your NAPA Jobber!

DE KOVEN MANUFACTURING COMPANY • RACINE, WIS.

2 MECHANICAL FIT

Complete and uncompromising for each make and model. Your assurance of Fast Installation Time and a better profit on each muffler job!



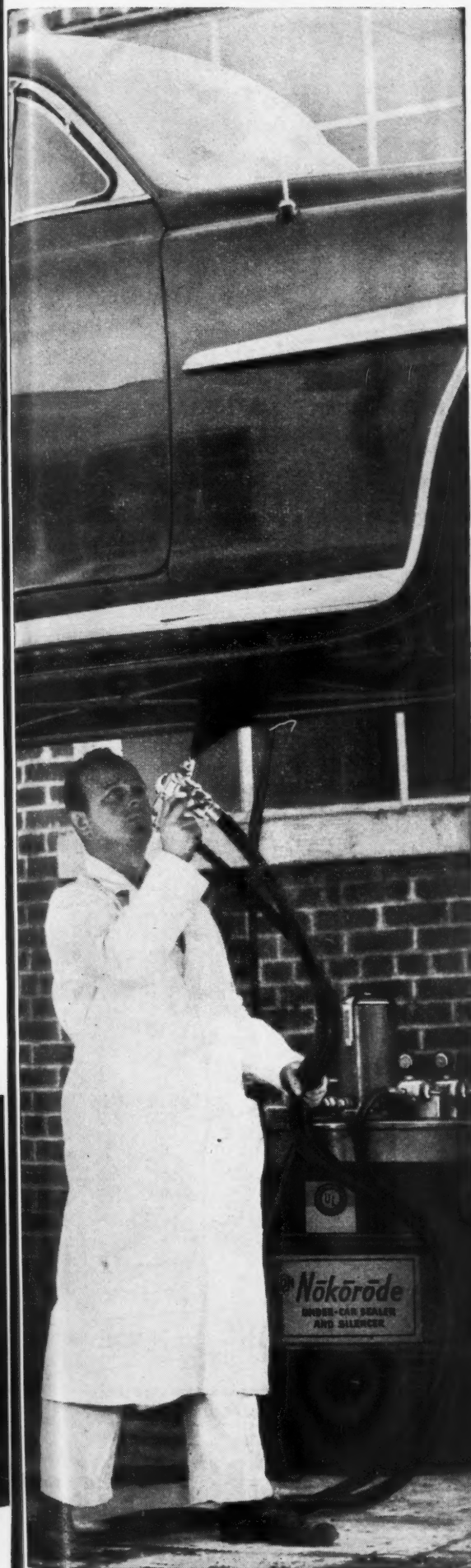
3 HORSEPOWER FIT

Each Soundmaster is designed to keep back pressure down, horsepower up. Protects against loss of pep—gives all the power the car can deliver!



Soundmaster

MUFFLERS FIT
ALL 3 WAYS!



Get 50% More Profit ON YOUR UNDERCOATING JOBS

LION **Nōkōrōde** UNDER-CAR SEALER AND SILENCER

1. 50% More Jobs Per Drum

Nokorode is *concentrated*—no excess solvent. You spray Nokorode to $\frac{1}{16}$ " thickness—and it dries to almost $\frac{1}{16}$ ". It's made *entirely* by Lion under U. S. Patent 2393774, assuring *controlled* uniformity, *controlled* quality. Nokorode goes 50% farther, yet costs no more than ordinary undercoatings. That means 50% more profit for you.

2. Easier Application . . . Lower Labor Cost

Nokorode is *uniform* for smooth application—no troublesome "blobs". . . flows freely, permitting steady pressure in the gun. There's no lost time due to lost pressure.

Nokorode is *stable*, made of highly compatible materials—won't separate in storage, won't clog guns or hoses. You avoid unnecessary clean-up jobs—you save man-hours and money.

Made and guaranteed by

LION OIL  COMPANY
EL DORADO ARKANSAS

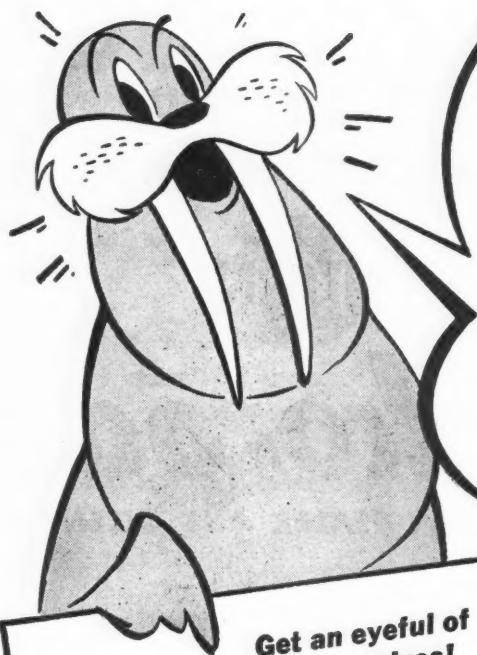
FREE! Details on how to increase undercoating profit.

LION OIL COMPANY, El Dorado, Arkansas

Please send information on higher profits
with LION NOKORODE.

Name _____
Address _____
City _____
State _____

MA-8



What a Contest!

\$50,000 WORTH OF PRIZES
for U.S.I. PERMANENT ANTI-FREEZE
DEALERS AND THEIR EMPLOYEES
in U.S.I.'s great \$50,000 Prize Contest!

(Contest not open to the general public!)

**Get an eyeful of
 these prizes!**

2-Week Air Tour of Europe for Two!
10 Nash Ramblers Completely Equipped, any model!
22 RCA DeLuxe TV-Radio-Phono Consoles!
44 Prizes, \$100 Each!

Here's how you can win: Finish this sentence—following the Contest Rules—in 25 words or less: "Mr. Motorist, Get U.S.I. PERMANENT Anti-Freeze, and get it *early* because . . ." You just write what you think are the best reasons to give car owners for buying U.S.I. PERMANENT Anti-Freeze and for buying it *early in Fall*.

Here's how we help you: All U.S.I. dealers will receive the "U.S.I. PERMANENT Anti-Freeze Contest Book." It gives valuable information, including Contest Rules, that can help you win a Contest Prize. If you have not received *your* copy of Contest Book and Contest Entry Blanks, ask your jobber for them!

What Advertising Support!

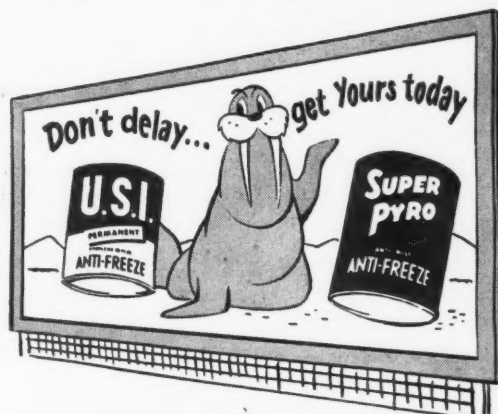
The strongest selling-story behind any Anti-Freeze! U.S.I. PERMANENT is the world's safest anti-freeze! Contains *more* ethylene glycol; plus Special Inhibitors, a top trade secret.

The broadest National Advertising coverage in anti-freeze history! Big-space U.S.I. ads run in 17 big-time magazines—the longest list you ever laid eyes on!

The heaviest Local Advertising barrage ever set off by U.S.I.! A hard-hitting combination of TV, Billboards and Radio will reach practically every motorist in U.S.I. territory!

Warning against re-use of old Anti-Freeze is featured in U.S.I. advertising, quoting U. S. Government scientists. This alone can increase your sales 40%, by recapturing the 40% of the market now lost through re-use!

For the big anti-freeze season just ahead, now's the time to order your

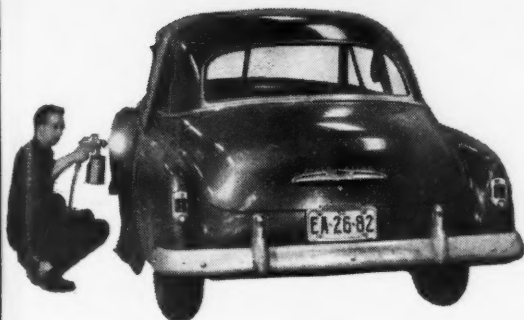


Intensive 2-month Billboard Campaign aims straight at the motorists in your town!

New Improved U.S.I. PERMANENT

**world's safest
 anti-freeze**

U. S. INDUSTRIAL CHEMICALS COMPANY • DIVISION OF NATIONAL DISTILLERS PRODUCTS CORPORATION



"You can't beat a DeVilbiss gun for spraying lacquers or synthetics"

says Fred Rabe of Row Motor Sales, Grand Rapids, Michigan

Fred Rabe works in a busy bump-and-paint shop that handles 7 to 10 spray jobs of all kinds every day. A large part of his work is reconditioning used cars to speed resale. Fred says:

"I have a lot of confidence in my DeVilbiss spray gun. You see, I never know whether the next car I repaint will be a lacquer or synthetic job. But, with either material, I get a swell finish.

"I like the fine adjustment of the gun. It gives me complete control of the amount and break-up of paint I spray, as well as the size and shape of the pattern. Once I adjust it, the gun *stays* adjusted.

"And it's easy to use, too. The light weight, the fine balance and the smooth trigger action, take a lot of the load out of my work. The removable head saves time."

Like Fred Rabe, thousands of topnotch painters are benefiting customers and themselves by using DeVilbiss methods, and service equipment. Many are learning the latest spraying techniques at the tuition-free DeVilbiss school. Your DeVilbiss jobber can give you full information on the many services available. Call him today, or contact our branch office or factory.

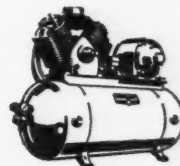


Painter Fred Rabe prefers a DeVilbiss gun because of its fine adjustment and easy handling.

THE DEVILBISS COMPANY, Toledo, Ohio
Windsor, Ontario • London, England • Santa Clara, Calif.

Branch Offices and Distributors in Principal Cities Throughout the United States, Canada and the World.

Chilton's MOTOR AGE, August, 1953



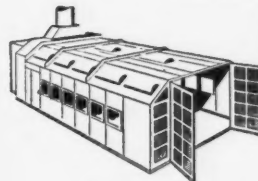
Air Compressors



Spray Guns



Hose and Connections



Spray Booths

FOR BETTER SERVICE, BUY

DeVilbiss



Why be
stuck with four
adhesives?



Try All-Purpose **Red-I-Stik** WEATHERSTRIP ADHESIVE

DO ALL THE ADHESIVE JOBS in your shop with economical, all-purpose RED-I-STIK adhesive by CARBORUNDUM. Install, repair, seal either natural rubber or synthetic weatherstripping...attach trunk linings, felt pads and insulation...repair torn upholstery...replace header cloths and side panels...and many other jobs.

THREE HANDY SIZES save you real money...eliminate losses from half-used, dried-up containers. The 2 oz. tube is big enough for 90% of your work—and you can charge one tube against each job. The 5 oz. tube handles the more extensive jobs. For your production-line work, the quart can is most economical.

DISPLAY RED-I-STIK weatherstrip adhesive on your parts or accessories counter...make *extra* profits from the man who does his own minor repairs. Attractive display boxes are furnished with each dozen tubes—either the 2 or 5 oz. size.

*Call your
Carborundum
jobber...*

Stock up on RED-I-STIK adhesive today! Or write to The Carborundum Company, Dept. MA 90-320, Niagara Falls, N. Y.



Stock the complete Red-I-Brand line by

CARBORUNDUM

REGISTERED TRADE MARK

...for high-profit work with low-inventory investment

All brand names in the Red-I-Brand line are trade marks of The Carborundum Company, Niagara Falls, New York

YOU GO "ALL THE WAY" WITH McCASKEY

You know where you stand — and save your time

Provides Item-Added Sales and Mechanically Accurate Sales Totals—No Mental Additions

Provides Gallonage Control to Recover Shortages

Provides Unit Inventory and Daily Checkout Record Forms

Provides Item-Added Printed Sales Slip Records

Provides Instant Account-to-Date Visibility of Charge Accounts

STATION OPERATORS were first aroused by McCaskey to the fact that FORGOTTEN CHARGES and UNREGISTERED CASH SALES were costing BIG MONEY in UNRECOVERED SHORTAGE LOSSES! THAT WAS GASOLINE!

Many thousands DID SOMETHING ABOUT IT! They put McCaskey Service Station Cash Registers to work. They STOPPED THE LOSSES and RECOVERED SURPRISING AMOUNTS DAILY, WEEKLY, MONTHLY AND YEARLY!

THE McCASKEY DID NOT COST THEM MONEY —IT EARNED THEM MORE MONEY! IT WILL EARN MONEY FOR YOU!

Later — operators saw uncontrolled charge accounts eating up profits. THEY WERE GIVING AWAY CHARGED MERCHANDISE BY NOT COLLECTING FOR IT. THAT WAS GASOLINE, OIL AND TBA ITEMS!

Something had to be done if money was to be made! McCaskey's CHARGE ACCOUNT VISIBILITY—OF ACCOUNTS TO DATE WITH EVERY CHARGE TRANSACTION—stood out as the most needed single feature for COMPLETE CONTROL!

Oil company executives pointed many operators to McCaskey. Others discovered McCaskey in different ways. McCASKEY MET THE NEED AND PROVIDED THEM CONTROLLED CHARGE ACCOUNTS!

THE McCASKEY DID NOT COST THEM MONEY —IT EARNED THEM MORE MONEY! IT WILL EARN MORE FOR YOU!

THEN—McCaskey and station men working together saw a serious weakness in lack of UNIT INVENTORY CONTROL OF ALL ITEMS —saw the serious weaknesses in checking out stations. TOO MUCH TIME WAS LOST! TOO LITTLE USABLE INFORMATION AVAILABLE! THE McCASKEY ANSWERED THESE TOUGH STATION PROBLEMS! YOU SHOULD KNOW THESE ANSWERS!

THE NEW McCASKEY DOES NOT COST YOU MONEY —IT EARNS YOU MORE MONEY!

McCaskey Register Company, Alliance, Ohio

SEND INFORMATION ON THE PRODUCTS CHECKED:

- ☐ McCaskey Gasoline Shortage Control Cash Register System
☐ McCaskey Charge Account Control System

- ☐ McCaskey Steel Safe
☐ McCaskey Portograph and Sales Books

NAME..... ADDRESS.....

CITY..... STATE.....

THE McCASKEY REGISTER COMPANY • ALLIANCE, OHIO

Boston • New York • Philadelphia • Washington, D. C. • Atlanta • Pittsburgh • Kansas City • Cleveland • Chicago
 Detroit • Minneapolis • Dallas • San Francisco • In Canada, Galt; In England, Watford

A Lipe Clutch

is a
BALANCED CLUTCH!

Keep it that way with Genuine LIPE Parts!

Balance is all-important in engine and drive line parts. Take the pressure plate of a clutch, for instance.

Pinch-hitting with imitation plates often results in unbalance. Vibration is distributed throughout the vehicle, causing costly damage to engine bearings, motor mountings, chassis—in short, a general shortening of the life of the vehicle.

All *Lipe* pressure plates are balanced at high

You'll know Genuine *Lipe* Parts by this distinctive green and yellow box . . .

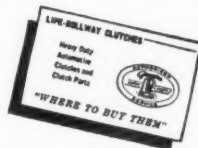
Genuine *Lipe* clutch parts come to your dealer packaged in green and yellow boxes like the one shown here.



speed before leaving the factory. Expensive, high-precision equipment, operating under exacting quality-control methods, assures vibrationless performance in the *Lipe* plates you install.

Lipe parts may cost slightly more than imitation parts. *But they pay you dollars more*—in customer satisfaction, repeat business, and the reputation for sound craftsmanship that makes your business grow.

If in a larger city, look for this ad in the yellow pages of your telephone directory under "Clutches". Write to the factory for complete data, free service manuals and wall chart, and name of your nearest authorized jobber.



***Lipe* - ROLLWAY CORPORATION**

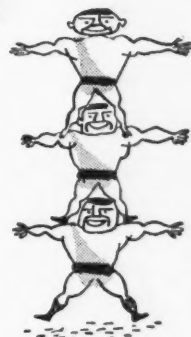
Manufacturers of Automotive Clutches and Machine Tools
Syracuse 1, N. Y.

Only Dodge Offers **3**★Way Dealer Profits

From a Single Sales Agreement!

TRIPLE-DECKED LINE

- 1 DODGE action-built CARS** . . . take the measure of all "eights".
- 2 PLYMOUTH** . . . 3rd largest selling car in America.
- 3 DODGE "Job-Rated" TRUCKS** . . . meet 98% of all hauling needs.

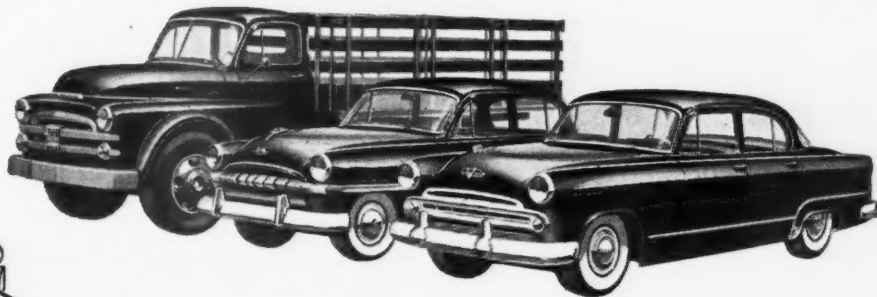


TRIPLE TIE-IN AGREEMENT

Dodge dealers profit from the sales of "all three"—the only profit opportunity of its kind in the auto industry.

TRIPLE-CHECKED ADVANTAGES

- 1 A single overhead** for "all three" . . . reduces operating cost . . . raises net income!
- 2 Helpful field force** . . . assists in dealer effort.
- 3 Sales-building factory aids** . . . available for selling, merchandising, training ideas.



WRITE TODAY FOR COMPLETE DETAILS

DODGE DIVISION of Chrysler Corporation • Detroit 31, Mich.

So super-fine...so super-safe!

IT'S SUPER-SALEABLE TO BOTH !

GRIZZLY SILVERTIP

Grizzly SILVERTIP Brake Lining appeals at once to two important groups of customers—operators of heavy duty multi-stop vehicles and safety-conscious owners of passenger cars. For SILVERTIP delivers what *both* want in a brake lining!

Both want safety—SILVERTIP is *super-safe*! Both want reduced maintenance—SILVERTIP hardly ever needs adjustment!
Both want long service—SILVERTIP has an amazingly *longer* life!

And *why* is SILVERTIP finer and safer? Because it is compounded and made *differently*! For SILVERTIP has a reinforcing wire back . . . a strong "backbone" that permits *much denser moulding* for greater stopping power, freedom from fading, and longer wear.

And so, for *both* multi-stop vehicles and passenger cars, sell 'em SILVERTIP! Ask your Grizzly Distributor for details. Grizzly Manufacturing Company, Paulding, Ohio.



GRIZZLY BRAKE LINING

NATIONALLY ADVERTISED! Your customers and prospects are among the millions who see Grizzly SILVERTIP advertised regularly in *The Saturday Evening Post* and *Collier's*. And Grizzly follows through with colorful and effective selling helps!

THE BEST YOU CAN SELL!



Saftibond-Silvertip and **Saftibond-Syncro**—The linings with the original factory-applied bonding agent. Saftibond-Silvertip for deluxe or severe service. Saftibond-Syncro for standard duty.



Silvertip and Syncro-Sets—For riveting. Super-safe Silvertip for deluxe or severe service . . . Syncro-Sets for standard duty. Drilled and countersunk to manufacturers' specifications. Individually boxed.



Silvertip Heavy Duty Brake Blocks—Finished to close tolerances in every dimension, controlled throughout manufacture to assure uniform performance characteristics.

DU PONT

Anti-Freeze Week is coming!

(AND LISTEN TO 'EM CHEER)



"Increases anti-freeze sales 35%"
Jack H. Williams
 Toledo, Ohio

"...Increased overall business by 50%"
James R. Dalson
 Grand Rapids, Mich.

"Parts sales increased 130%"
Dick Gietzen
 Grand Rapids, Mich.

"Idea a must for small businessman"
Ralph Bowman
 Pocatello, Idaho

"Put \$1000 more in the cash register than previous year"
Joe Davis
 Peoria, Ill.

"Big increase in flushing jobs"
Edward Burgoon
 Greenbelt, Md.

"Doubled amount of anti-freeze I'd sold before"
Ross Collier
 Dallas, Texas



Get ready to make this big Du Pont promotion pay off for you. Order Du Pont **"ZERONE"** and **"ZEREX"** from your supplier now.

REG. U.S. PAT. OFF.

REG. U.S. PAT. OFF.



DU PONT "ZERONE"—the great money-saving anti-freeze. No evaporation problem. Gives complete anti-rust protection, requires only an occasional check-up.

DU PONT "ZEREX"—America's outstanding premium anti-freeze. One shot lasts all winter.



REG. U.S. PAT. OFF.



IT'S THE BIGGEST MERCHANDISING IDEA EVER TO HIT THE ANTI-FREEZE BUSINESS!

You'll sell lots more anti-freeze—and many more winter-servicing jobs—by tying in with Du Pont's smashing "Anti-Freeze Week" campaign. This terrific merchandising idea was developed by Du Pont, is associated with Du Pont in the minds of motorists everywhere. That means the dealer who stocks and sells Du Pont anti-freezes will be the one to make the biggest profits during "Anti-Freeze Week," October 12-17. Ask your supplier for full details.

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY



*Cutaway shows rugged filaments
that take the place of
an inner bulb*

General Electric LEAVES OUT THE BULB TO INCREASE THE LIGHT

AUTO headlamps always used to depend on a small inner bulb for their light. But because this bulb was so small, it was soon covered by black deposits from the burning filament on the inside. The longer the bulb burned—the dimmer it got. Then General Electric found a way to make a headlamp that has *no* inner bulb to blacken. Instead,

a G-E sealed beam headlamp is one big bulb, and no matter how long it burns, there's no loss of light. Blackening is no problem. That's why G-E *all-glass* sealed beam headlamps stay bright—give *more light longer!* For your customers' safety and driving comfort, be sure to install General Electric headlamps.

G-E All-Glass headlamps DO NOT GROW DIM

You can put your confidence in —

GENERAL  **ELECTRIC**



*the car
that suits
them*

...suits him too!



White side-wall tires and full-disc hubcaps optional equipment at extra cost.

*that's why it pays to
travel with* **MERCURY**



"Whenever you take out an oil seal, always replace it with a new one..."

Why lose time getting parts? National Service Stocks insure the right seals on hand, when, where needed. Jobber keeps stock up—no work for you. Cabinet comes with the deal. Ask your jobber for complete information.

Service stocks to fit your needs



#5512. For lube stations. 58 popular front wheel seals.



#5511. For garages. 114 fast-moving front, rear seals.



Support this industry wide program

...and be sure the new seal is a National! Fleet operators save on maintenance costs, reduce shop time and help avoid breakdowns by installing new seals regularly—at every preventive-maintenance inspection, every time a bearing is disassembled. Why not play it safe yourself? Give bearings and brake linings the best possible protection. Install new National seals every time. Means extra profit, too!

NATIONAL MOTOR BEARING CO., INC.

General Offices: Redwood City, Calif. Plants: Redwood City, Calif.; Van Wert, Ohio

NATIONAL

OIL & GREASE SEALS

O-RINGS

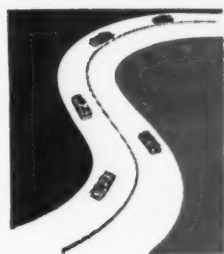
SHIMS

Approved original equipment for all cars, trucks, buses and tractors.

**What every
Automobile man
should know about**

Power Steering

The fastest-growing innovation in automotive history is Power Steering—and the leader in Power Steering is SAGINAW, world's largest producer of steering gears. Saginaw Power Steering is now available on all General Motors cars and three other well-known makes. Nearly 600,000 new cars have been equipped with it—more than all other types combined. So naturally, many people wonder:



6. HOW DOES SAGINAW POWER STEERING OPERATE?

Basically, it is simply a highly-efficient Recirculating Ball Nut Steering Gear with a built-in hydraulic assist. This consists of a pump which delivers oil at 750 pounds per square inch, a reservoir, a double-acting hydraulic cylinder, and an ingenious spool-valve control valve, as shown in simplified Diagram 1.

The spool valve, part of the steering shaft, is a grooved cylinder machined to a sliding fit within the grooved valve housing. The spool revolves with the steering shaft, can slide forward or backward about .060", and still retain the high-pressure oil. Whenever less than three pounds pull on the steering wheel is needed, the valve remains in "neutral" position as shown in Diagram 1, and the circulating oil by-passes the power cylinder. No hydraulic force whatever is applied to the steering mechanism, and the car remains completely under manual control. This assures the "feel

of the road" SAFETY ZONE which distinguishes Saginaw Power Steering from ordinary types.

However, as soon as *more* than three pounds pull is needed, the resistance of the wheels causes the ball-nut and screw assembly to act as a jack. If the turn is to the *left*, this forces the whole steering shaft, including the valve spool, imperceptibly *toward* the driver as shown in Diagram 2. This changes the course of the oil, so it now flows to the front of the power cylinder and forces the piston backward. Power assistance is thus applied to the pitman arm, to help turn the wheels to the left. At the same time, oil pressure on the valve plungers tends to move the steering shaft and spool back to neutral position, which cuts off the flow of oil to the power cylinder.

When the steering wheel is turned to the *right*, the spool moves slightly *away* from the driver. The oil flows to the opposite end of the power cylinder and forces the piston to assist in turning the front wheels to the right.

The whole system also acts in reverse to resist any force, such as a blowout, which tends to twist the wheel from the driver's hands. When a road shock is transmitted through the pitman arm, the resulting movement of the valve spool admits oil to the proper side of the power cylinder to counteract the shock. Note, too, that a by-pass valve is provided which opens in case of pump failure so there is no resistance to normal manual steering.

IF YOU'D LIKE TO LEARN MORE—we'll be delighted to send you "THE FACTS ABOUT POWER STEERING".

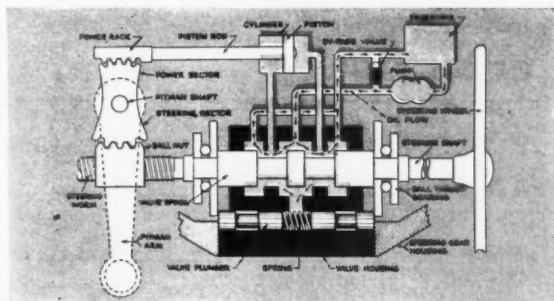


Diagram 1

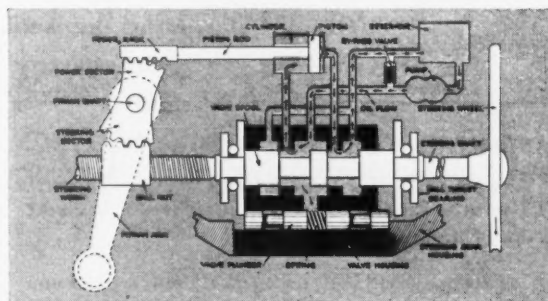


Diagram 2

Saginaw

POWER STEERING

Saginaw Steering Gear Division
General Motors Corporation
Saginaw, Michigan (Dept. A)

Please send a free copy of "The Facts About Power Steering"

NAME _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____



*Everybody
Loves a
Champ!*

YOU CAN BE



"Champ" in the AUTOMOBILE DEALER field

**Tell Us Your Brand Story for 1953...
win a Brand Name Retailer-of-the-Year Award**

125 Winners... 5 in Your Field

"Retailing's Most Coveted Honor!"

Winners to be Honored on Brand Names Day—U.S.A., April 14, at a dinner in the
Grand Ballroom of the Waldorf-Astoria Hotel, New York City.

NO COST, ENTRY FEE, OR OBLIGATION

BRAND NAMES FOUNDATION, INCORPORATED
37 West 57th Street, New York 19, N. Y.

Yes! I want to be considered for a 1953 Brand Name
Retailer-of-the-Year award.

_____ Please send an entry form to help me tell you
my brand story. I understand that I will also
receive the free booklet, "Dividends from
Brand Selling," which includes full details
about the awards.

_____ Enclosed is the story of my firm's 1953 brand
activities. I understand that I will receive the
booklet, "Dividends from Brand Selling,"
which includes full details about the awards.

Firm Name _____

Type of Firm _____

Executive _____

Title _____

Street _____

City and State _____

Send for full information and your free copy of the booklet, "Dividends from Brand Selling."

NEW SAFETY-TESTED "SEAL" MAKES DEBUT IN OLDSMOBILE USED CAR PROGRAM!

Dealers enthusiastic over
promotional possibilities of
new merchandising activity



The seal with sales appeal! This new Oldsmobile used-car emblem is winning the approval of thousands of Oldsmobile dealers everywhere! The seal stands for top-quality, low-mileage used cars . . . checked five ways for safety and dependability . . . and backed by the dealer's-written warranty and solid reputation. Because of the new Oldsmobile's sky-rocketing popularity, dealers are now offering a wide selection of these Safety-Tested Used Cars. All of them are the best of the trade-ins . . . many of them are the hottest used cars on the market . . . "Rocket" Engine Oldsmobiles! In used cars . . . in new cars—
THE SMARTEST DEAL IS OLDSMOBILE!



OLDSMOBILE

OLDSMOBILE DIVISION • GENERAL MOTORS CORPORATION • LANSING, MICHIGAN

Chilton's MOTOR AGE, August, 1953

GRAY MOTOR COMPANY
 CENTRAL - Authorized Dealer - PLYMOUTH
 1800 East Main Street
 Chrysler-Plymouth
 Sales-Service
 WEST FRANKFORT, ILLINOIS

Mid-Continent Petroleum Corporation
 Terre Haute, Indiana

Gentlemen:

When Chrysler cars with the V-8 motor came out, we had trouble with the hydraulic valve lifter. Some were noisy, some stuck. We used many different oils and motor dopes. No great success of eliminating our trouble was found.

We started using D-X DHD Motor Oil. Our troubles cleared up. We found it to be a truly different oil. The right oil for our motors. We have experienced no trouble whatsoever with our cars or with customers' cars since. We use it 100% in all cars equipped with hydraulic valve lifters.

Gray Motor Company
Henry Benbrook
 Henry Benbrook, Shop Foreman

keeps hydraulic valve lifters quiet

That's what Henry Benbrook, Gray Motors (West Frankfort, Ill.) shop foreman, says about D-X DHD Motor Oil. And, that's what your customers will say when you sell them a change to D-X.

For D-X Motor Oil and D-X DHD are not only double solvent refined from premium paraffin-base crude stocks for greater heat resistance, higher viscosity index and more film strength. They're stepped-up with our exclusive Extrinol for increased resistance to the contaminants that cause hydraulic valve lifter trouble.

In fact, when your customers try D-X you can guarantee them trouble-free hydraulic valve lifter operation or we'll refund their money in full. The D-X money-back guarantee has helped sell D-X Motor Oil to millions of car owners. It will help sell D-X for you, too. If you live in the Midwest, write us today about the D-X Franchise.



new, stepped up

D-X Motor Oil
 with
 Extrinol

MID-CONTINENT PETROLEUM CORPORATION
 TULSA, OKLA.

Omaha, Nebr. Waterloo, Ia.

Chicago, Ill.

Terre Haute, Ind. Minneapolis, Minn.

PORTABLE - PNEUMATIC

Your BAY LIFT

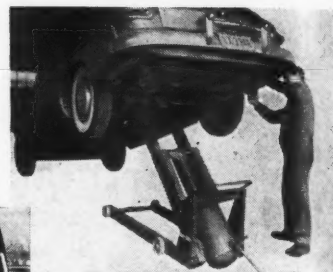
Pat. No. 2230250

Will do any lifting job - better with economy and safety

Moved easily as a jack for use in or out-of-doors, by simply attaching to air hose. Bay-Lift will handle more jobs "on the spot" with a saving up to 50% in time and labor, with safety.

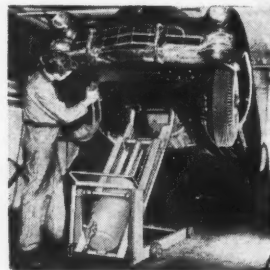
LIFTS REAR END

Bay-Lifts raise either end of car to any height. The ideal hoist for brake service work, shock absorber service, paint, body and fender departments.

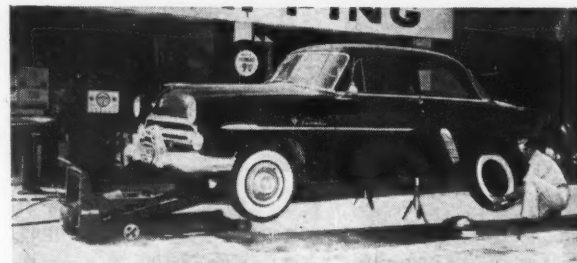


LIFTS FRONT END

Bay-Lifts raise the car to convenient working height, clearing the undercarriage without obstructions and is, therefore, ideal for steam cleaning, front end rebushing, auxiliary greasing, tightening and undercoating work.



RAISES ALL FOUR WHEELS



All four wheels may be raised in twenty seconds by placing a Bay-Lift under front of car and raising so that a pair of car stands may be placed in position, contacting frame ahead of rear wheels, then lowering Bay-Lift so that the height of all wheels are equalized. For quick change of tires, interchanging wheels and brake service, this feature of Bay-Lift is outstanding, whenever wheels or tires need to be removed.

MULTIPLE INSTALLATIONS PROVE PROFITABLE



Many service shops, such as the one pictured above, are employing many Bay-Lifts to handle volume work in various departments. More than 3,000 Bay-Lifts are in operation in the Upper Mid-West territory.

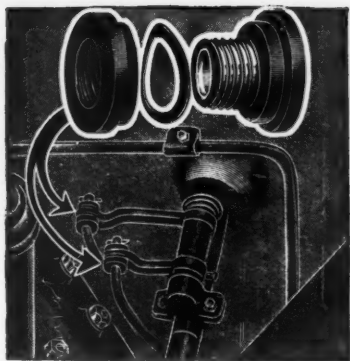


WRITE TODAY FOR FULL INFORMATION

BAY MANUFACTURING COMPANY

BOX 378 - TORRANCE, CALIFORNIA

OVERSEAS DIVISION, 276 WEST 43RD ST., NEW YORK 36, N.Y.



CHAMP-ITEMS ARE SPECIAL DESIGNED PARTS

For Every Automotive Service Shop



Yes, Champ-Items have been developed to meet the demand of service men who have requested certain parts to meet a troublesome service need. For nearly a quarter century mechanics have called upon Champ-Items to solve service problems, and that's why they use Champ-Items Trouble Shooters by the millions. In the Champ-Items catalog No. 53, you will find more than 200 parts to help you give faster service. Why not send in your letterhead for a free copy.

No. 444 Gear Shift Lever Bushing Assortment for all popular makes. Made of fibre to replace standard bushings. Not affected by oil or grease.

No. 945 Door Lock Springs Assortment for all popular cars to late models — color code for quick service. List 15¢ per spring.

No. 404K and **404RK** Speedometer Cable Repair Kits for all cars and trucks. List \$1.50 per cable.

No. 488 Window Channel Shims. Weatherstrips against rain, insulates against cold. List \$1.00 each.

No. 910 Window Anti-Rattles mounted on display card at List 20¢ each.

No. 949 Standard and Oversize Self-Thread-Drain Plugs. List 40¢ to 60¢ each.



ORDER FROM YOUR JOBBER

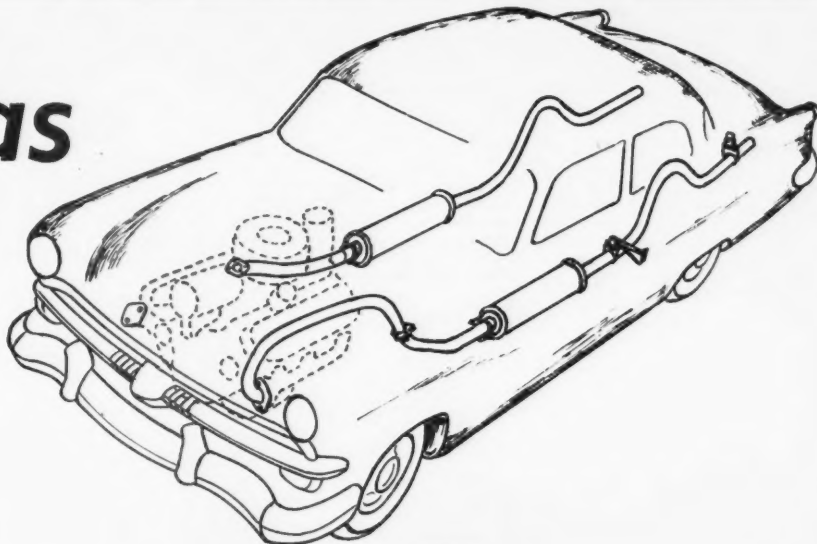
CHAMP-ITEMS, INC.

1141 Maple Ave. St. Louis 14, Mo.

Fiberglas

MAKES
the
DIFFERENCE

IN



SPORTSMAN

DUALS

Fiberglas packing in SPORTSMAN mufflers absorbs harsh, high frequency exhaust noises, and gives low back pressure for improved performance. Now, with SPORTSMAN DUALS, sharp curves in the exhaust pipes have been eliminated for further efficiency.

SPORTSMAN DUALS are engineered for the easiest possible

installation. They go on without bending or forcing, and with plenty of clearance at all points.

SPORTSMAN DUALS are also available for Chevrolets in an expertly designed installation which can be completed in an hour—without manifold alterations.

Write for details of SPORTSMAN DUALS—the pleasing dual tone without undue noise.

Arnold Haviland Company

Defiance 11, Ohio



Lester Swailes,

of 300 So. Main St., Lombard, Illinois, says:

"Here's How I Sell More WEED CHAINS Earlier!"

"When folks start talking football they know winter's on the way. That's when I get my WEED display material up. Then I show my customers a WEED V-Bar cross chain, and point out those flaring steel points. I remind them that a sudden rush might clean me out. Smart folks would rather buy early than get stuck — so I make a lot of sales in September and October."

• You profit two ways with early-bird selling of WEED V-Bar Tire Chains: You make immediate sales ... and the last-minute customers remember you when they decide to buy.

• When you talk WEED CHAINS, point out that each pair has at least 288 steel points, which bite into ice and hard-packed snow ... tell how right-left construction (see picture) reduces side-skid. Remind your customers that they use chains only when needed—don't have to put up with whine, rumble and roar of snow tires when roads are clear. And remember this: a safe customer is a continuing customer. That's why you'd better sell WEED V-Bar Tire Chains ... traction you can trust.

ACCO American Chain & Cable Company, Inc.,
York, Pa. and Bridgeport, Conn.
In Canada: Dominion Chain Company, Ltd.,
Niagara Falls, Ont.



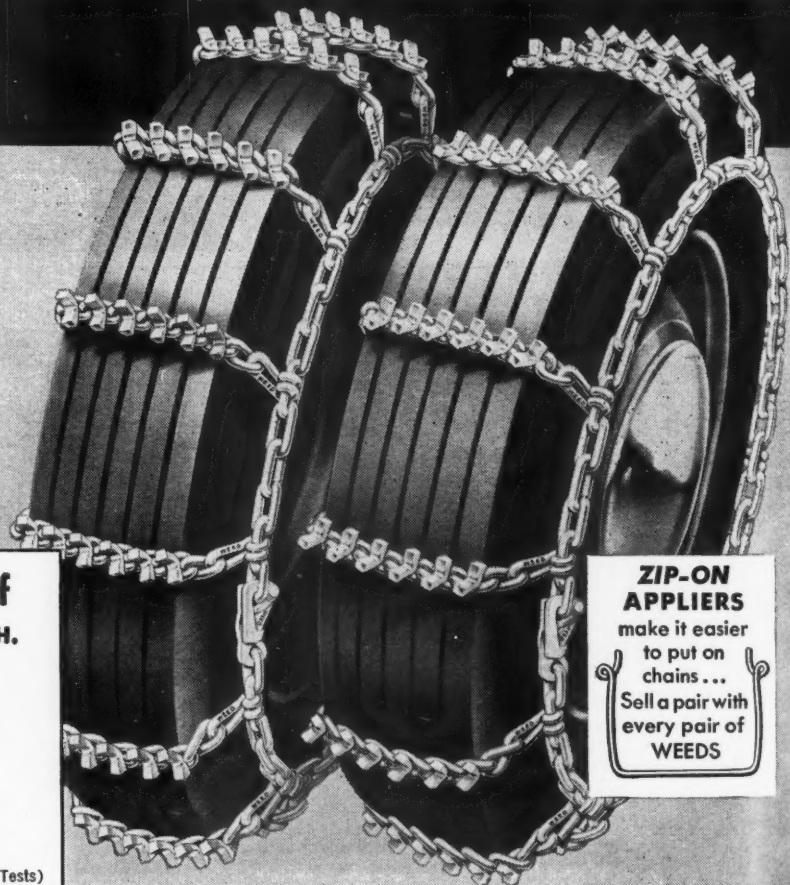
Don't S'kid Yourself

STOPPING ON GLARE ICE AT 20 M.P.H.

..... 77 ft.	with Reinforced Tire Chains
Natural Rubber Tires*	..... 209 ft.
Winterized Tires	..... 188 ft.
Mud-Snow Tires	..... 201 ft.

*For stopping or starting on ice or snow, synthetic rubber tires skid or spin 10% to 50% more than natural rubber
(All figures in this panel are quoted from National Safety Council Tests)

Flaring Reinforcements with Right-Left Construction
GIVE DOUBLE GRIP and REDUCE SIDE-SKID

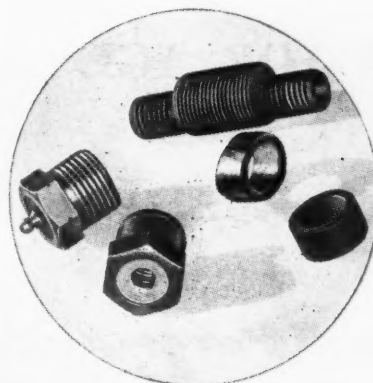


**ZIP-ON
APPLIERS**
make it easier
to put on
chains ...
Sell a pair with
every pair of
WEEDS

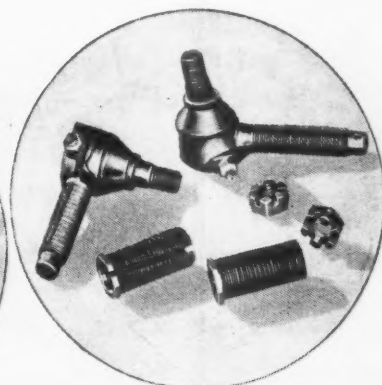
The Tire Chain that Doubles the Wear
and Doubles the Bite on Ice or Snow...



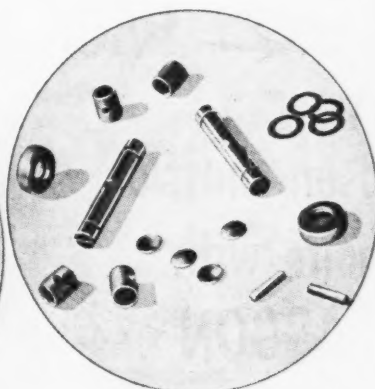
WEED V BARS



Upper pivot pin kit



Tie rod end and sleeve kit



Kingpin replacement kit

You can end "front-end" trouble with **BUICK** parts

FACTORY ENGINEERED

Yes, you'll save yourself both time and money by using Buick Factory Engineered parts on any Buick front-end jobs you do.

They make an easy, exact fit.

They are made to top specifications, to line up right and wear longer.

They are sold to you at regular discount.

And you can get a handy replacement kit for special jobs, as shown above—all packaged together and ready for you. Great time-and-temper savers. Try them!

BETTER WORK WITH

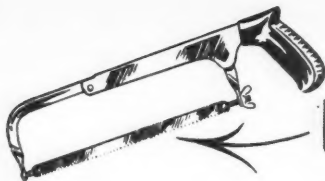
FACTORY ENGINEERED PARTS

ENGINEER APPROVED ACCESSORIES



FACTORY ENGINEERED PARTS

SEE YOUR BUICK DEALER



Why use a
HACK SAW?

Loosen muffler
bolts with
TASGON



Tasgon, the fast-working rust solvent, will save you time and labor. Quickly loosens corroded parts, frees frozen nuts, bolts and studs. Tasgon cuts through gummed up oil and grease, hardened paint . . . speeds up muffler and other repair jobs . . . keeps valuable tools rust-free.

Write today for FREE SAMPLE

Try Tasgon on the job. We'll send you a free sample can of Tasgon. Try it once and you'll always keep it handy.

SAMUEL CABOT INC., 876 Oliver Bldg., Boston 9, Mass.

Now! Complete Line of
Snugl
WHEEL BALANCING WEIGHTS
for TRUCKS and BUSES

8 Snugl 8 R FLANGE S
10 Snugl 10 T FLANGE V

R & S REGULAR TRUCK
Fits about 80% of all Truck Rims

WHEEL JOBS
T.V. HEAVY DUTY THIN

"STANDARD OF THE TRADE"

Snugl Heavy Duty Truck Weights are especially designed to give

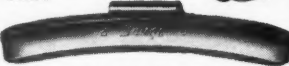
- EASIER APPLICATION
- BETTER FIT
- BETTER BALANCE

The exclusive Dove Tailed Steel Spring Clip holds weight firmly to rim with a Bull Dog grip . . . the beveled edges prevent clip from gouging tire.

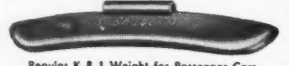
When you buy Snugl you can be sure of getting the finest Wheel Balancing Weights on the market . . . designed right and made right to give better balance and better fit. The name Snugl (Registered Trade Mark) on every weight is your guarantee of complete satisfaction.

FOR PASSENGER CARS

Write for illustrated catalog sheets of Snugl Wheel Balancing Weights for Passenger Cars, Trucks and Buses . . . also name of your nearest Jobber.



Special Thin K & L Flange Weight for Passenger Cars



Regular K & L Weight for Passenger Cars

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MAIN OFFICE AND FACTORY KOKOMO, INDIANA
WEST COAST FACTORY WHITTIER, CALIFORNIA

MOTOR AGE

Subscription

Renewal Percentage

Is Higher Than

That of Any Other

MONTHLY

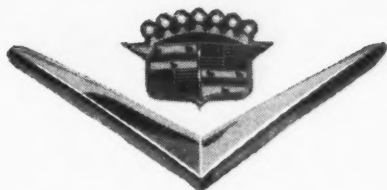
AUTOMOTIVE

SERVICE

MAGAZINE



Equipment on All These Fine Car Engines



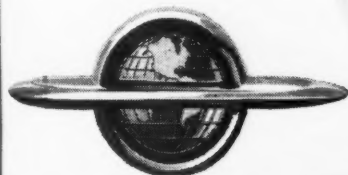
On every CADILLAC since 1914



On every PONTIAC since 1926



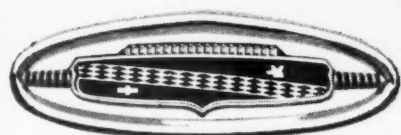
On every CHEVROLET since 1916



On every OLDSMOBILE since 1911



On every GMC truck since 1913



On every BUICK since 1908

AC

**SPARK
PLUGS**

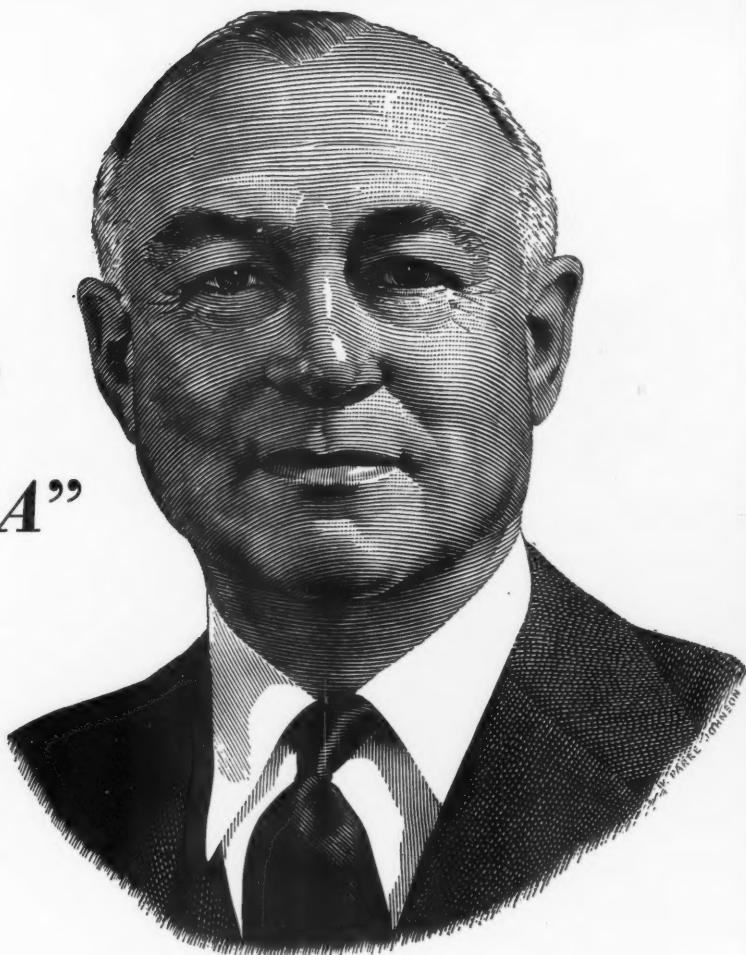
Only Spark Plug with Patented CORALOX Insulator

AC's Patented CORALOX offers these important advantages over previous types of insulators:

- Gets hot quicker to burn away oil and wet carbon deposits—stays clean longer.
- Resists deposits of oxide coatings from fuels.
- Has 4 times greater heat conductivity.
- Offers 3 times the mechanical strength.
- Provides 10 times greater electrical resistance at high temperatures.

**"...Well done,
AMERICA"**

GEORGE M. HUMPHREY
Secretary of the Treasury



"Few things in America contribute more importantly to national security than the Payroll Savings Plan—the vehicle through which millions of employed men and women build security, counteract inflation and create a reserve of future purchasing power by their monthly investment in U. S. Savings Bonds. Credit for this outstanding influence in our lives is due largely to a team that is typically American... far-sighted business executives who have made the Payroll Savings Plan available to the employees of 45,000 companies... 8,000,000 Payroll Savers... publishers of more than 500 business magazines and the management of the other advertising media who contribute generously of their space and time... the Advertising Council and advertising agencies who give freely of their skills. To these and to all who have a part in building the Payroll Savings Plan, the U. S. Treasury Department welcomes this opportunity to say, "Well done, America."

Do you know—

- on May 1, 1953, the cash value of Series E Bonds outstanding—the kind bought by Payroll Savers—reached a new record high—\$35.5 billion—\$1 billion more than the value of E Bonds held on May 1, 1951, when E Bonds commenced to mature.
- cash sales of Savings Bonds, all series, during the first four months of 1953 totaled \$1,741,273,000—22% above those of the first four months of 1952.

- of the approximately \$6.7 billion E Bonds which have come due up to the end of April, 1953, \$5.1 billion, or 75% were retained by their owners beyond maturity.

- every month, nearly 8,000,000 Payroll Savers purchase about \$160,000,000 in Series E Bonds.

For assistance in installing a Payroll Savings Plan, or building participation in an existing Plan, write to Savings Bond Division, U. S. Treasury Department, Suite 700 Washington Building, Washington, D. C.

The United States Government does not pay for this advertising. The Treasury Department thanks, for their patriotic donation, the Advertising Council and

MOTOR AGE



28 Victories
in 39 Starts...



▲ The 60th lap, Gardena, Calif. Hudson Hornets lead the field. Of 39 races to date, Hudsons have finished one-two 18 times!

U. S. STOCK-CAR CHAMPION LEADS AGAIN IN '53

All-time competitive record helps to pre-sell your prospects on Hudson's matchless performance, stamina, safety

Again in '53, the Hudson Hornet has chalked up victories against all other makes of American automobiles, even expensive foreign sports cars! With 28 firsts in 39 races, the Hudson Hornet is on its way to a second straight stock-car championship in all three major associations: AAA, NASCAR, PRA.

Here's what this all-time record means to you:

Pre-sold prospects! Prospects know stock-car racing is the best test for any car of its durability, stamina,

safety and performance. And they know Hudson outperforms them all!

Owner satisfaction! Hudson owners boost Hudson's matchless performance and durability. This tremendous owner satisfaction pays off for Hudson dealers!

Sales in all price fields! Hudson dealers now have a 94% coverage of the American new-car market—from the lowest priced to the most luxurious. And the current rise in Hudson sales proves Hudson dealers are cashing in on this huge market!

There are still a few Hudson franchises open. For complete information, send coupon today!

FREE SAMPLE!

Are you interested in a franchise with a future? Would you like to sample the exciting performance of the U.S. Stock-Car Champion, the fabulous Hudson Hornet? Phone, wire or mail in this coupon today.

HUDSON

HORNET
National Stock-Car
Champion

WASP
Lower Priced
Running Mate
of the Hornet

JET
Best Performance
and Economy in the
Lowest Price Field

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Hudson Motor Car Company
Detroit 15, Michigan


Please send me full details on the Hudson dealer franchise. I would like to drive a Hudson Hornet.

Name


Address

City & State

Business Position




WHEEL WEIGHTS



"The Quality Line"

A TYPE and SIZE for EVERY APPLICATION
SEE YOUR JOBBER OR WRITE FOR CATALOG

TURNER *Manufacturing Co.*
KOKOMO, INDIANA, U.S.A.




PERFECTION PARTS
are
Certified to excel



PERFECTION GEAR CO.

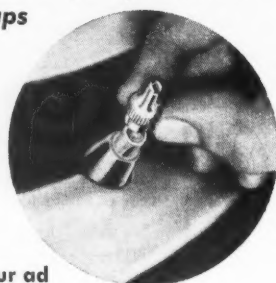
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Lost, strayed or stolen . . . always replace with
surest sealing valve caps



Use and Sell
Genuine Schrader
#880 or #7960 Caps
—with the sturdy metal shell.



See our ad

on page 79

A. SCHRADER'S SON BROOKLYN 38, N. Y.
Division of Scovill Manufacturing Company, Incorporated

"Also in the purchase of new equipment and tools MOTOR AGE

has been a big help, as we know practically all of the most reliable manufacturers are represented in Motor Age. We can keep well posted on their products and be in a position to make the best buys in this way."

The above, of course, is taken from a letter written to us by a MOTOR AGE subscriber. He is typical of thousands of other Motor Age subscribers in that he uses this leading automotive service magazine as a buying guide.

MOTOR AGE

A CHILTON publication

①
Chestnut and 56th Sts. Philadelphia 39, Pa.

BEST REPLACEMENT

EXHAUST HOSE ON THE MARKET!

CAR-MON "NU-FLEX" NEOPRENE-ASBESTOS EXHAUST HOSE

MOST ECONOMICAL REPLACEMENT for all types of flexible exhaust hose in ventilating systems! Double layer of tough neoprene with crack-proof fabric wrap prevents leaks. Unique spiral steel wire "backbone" yields without clogging when driven over or stepped on . . . can be restored quickly to proper shape. Will not stiffen or deteriorate with use. Out-lasts, out-performs any other tubing!

ADAPTABLE—fits all types and sizes of ventilating systems (not for Dynamometer use).

ASBESTOS-TREATED at Car-Exhaust End for Longer Life!

CONTACT YOUR JOBBER TODAY—or write direct for full details.

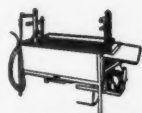
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diagnoses radiator elements in advance



TEST AND REPAIR BENCH
with Electric Elevator
...Rugged labor-saver



HOT CLEANING TANK
for hot chemical cleaning



LEAK EXPOSURER
"Locates the Hard to Find Leaks"

INLAND offers Everything for your RADIATOR DEPARTMENT

ALL TOOLS, SUPPLIES, CORES and EQUIPMENT
for MODERN RADIATOR SERVICE



DRAIN COCK FLANGE



No. 2085 Gloves
All purpose
universal size



TANK PATCHES
for cracks
around inlet



TEST PLUGS
Sets or single,
3/4" ID to 2 1/2" ID

Starting a New Radiator Department?
Training school for radiator repairmen plus complete operating instructions and assistance available upon request.

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Why Clean Metal Parts



Use

METAL/clene



**NO BRUSHING
NO SCRAPING
NO HEATING**

Metal/clene is made under an exclusive Bendix formula. There are many copies, but there is no substitute. When you order, be sure to specify and get the original Bendix® Metal/clene.

*REG. U.S. PAT. OFF.

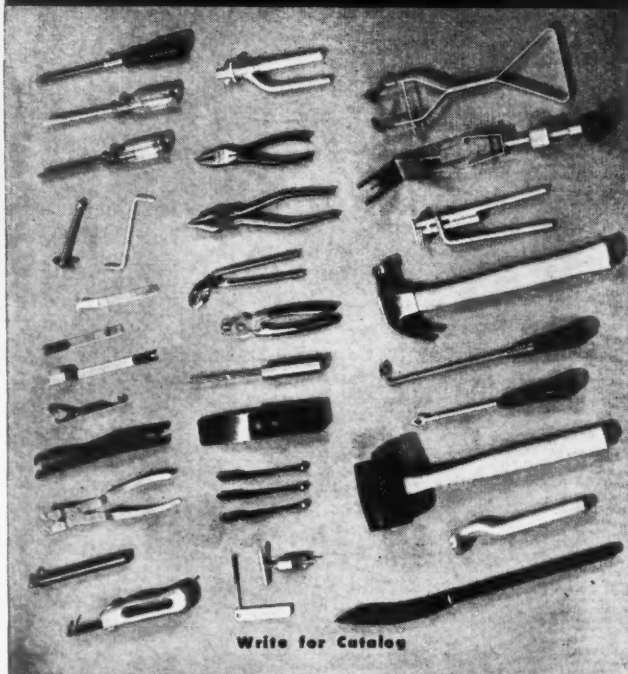
Just Dip 'em in Dirty - Pull 'em out Clean

BENDIX PRODUCTS DIVISION of
SOUTH BEND 20, INDIANA



Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.

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"Knock-Out" Valve Refacer

MODEL
K403



features:

SEE YOUR
AUTHORIZED
K. O. LEE
DISTRIBUTOR
OR WRITE
FOR
COMPLETE
LITERATURE

- Grinds wet or dry
- Valve stem range $\frac{1}{4}$ " to $1\frac{1}{16}$ " with three collets
- Five-inch grinding wheel
- Valve head capacity up to $3\frac{1}{4}$ " within valve stem range
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- Collet-type work head with controlled rpm's
- Concealed coolant system
- Right-hand table traverse arm
- Precision built for accuracy!

K. O. LEE COMPANY, ABERDEEN, SOUTH DAKOTA
NET VALVE REFACERS • VALVE SEAT GRINDER SETS • VALVE SEAT INSERTS
RESEATER SETS • ROD ALIGNERS • STUD WRENCHES • DRILLS • SANDERS
POLISHERS • HAND GRINDER SETS • REAMER DRIVES • A.C. WELDERS

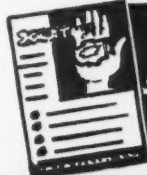
SOLATONE ANTI-CARBON UNIT

**ELIMINATES CARBON
IN THE ENGINE!
REDUCES WEAR!
IMPROVES COMBUSTION**

SOLATONE is not a filter...not a solvent, it is a catalyser which disperses carbon and gum deposits and renders them non-abrasive and non-adhesive. SOLATONE is a positive preventive of abrasive formation.

SO EASY TO INSTALL!

...on both fuel line and oil lubricating systems of all types of engines.



**SEND
FOR FREE
SOLATONE
CATALOG!**

Write to ...



\$12.95

HERE'S WHAT USERS SAY:

"...SOLATONE anti-carbon is a necessity for modern high compression engines..."

Racing Equipment Co.*

"...head cylinders, pistons and rings remarkably clean..."

Leading Engine Manufacturer*

"...SOLATONE units are all you claim and more..."

Racing Car Company*

"...SOLATONE installed on my car produced outstanding results..."

Leading Oil Filter Manufacturer*

"...this process is a remarkable new advance in modern technology..."

Chemical Engineer*

*Excerpts from letters in our files.

A. B. HYDROCARBON SYSTEMS
2808 McKinney Ave. Dallas, Texas

GET THE FACTS

... and you'll get

S-M AUTOMATIC MECHANICAL
Self-Adjusting
TAPPETS

MORE POWER

Shop and road tests prove large increase in usable engine power.

QUIET ENGINES

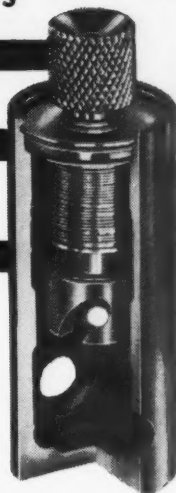
Valve and tappet noise reduced to a minimum... and stays reduced!

GREATER MILEAGE

Perfect valve timing minimizes fuel waste... assures more miles per gallon.

LASTING ADVANTAGES

Because they're self-adjusting. Tests show perfect timing maintained for thousands of miles with no readjustment.

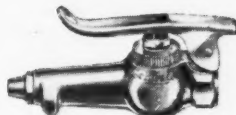


Aren't such benefits worth investigating? They mean dollars saved, time and trouble saved. And, every fact is backed by positive proof. Every claim is thoroughly substantiated by performance records. Write today for complete information to Dept. M-8.

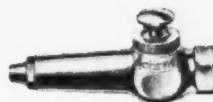
SKINNER-MOSER SALES Dunedin, Florida



You can do many jobs faster, easier and better with Schrader Airline Fittings. Got one of these quality blow guns?



#8785 Lever type
Blow Gun



#7184 Button-type
Blow Gun

Schrader

REG. U.S. PAT. OFF.

See our ad

on page 79

A. SCHRADER'S SON

BROOKLYN 38, N. Y.

Division of Scovill Manufacturing Company, Incorporated



* . . . says California Auto Refinisher William Moore of Tom Ray Pontiac Co., Glendale, Calif. He knows it costs him *less* to use the *best* masking tape . . . that the few cents saved on the purchase of a cheaper tape is *often lost many times over* when that tape fails. He writes:

" . . . in our business we have to use materials that we can depend upon. That's why we insist on "SCOTCH" Tape No. 202—it saves us time and money and is always dependable.

THE RIGHT START FOR A PERFECT FINISH!

"SCOTCH" MASKING PRODUCTS work together to give you perfect, trouble-free masking every time.

"3M" ABRASIVES stay sharp longer, sand easier—completely outperform all others. Made for hand or machine, wet or dry sanding.

"3M" ADHESIVES are used on top automotive production lines. Stock and use these specialized adhesives for sealing and holding repairs.

"3M" SANDING TOOLS save time, save work, increase efficiency. Order and use the "3M" Back-Up Pad Assembly, "3M" Disc Feather-Edger, and the "3M" Cone Mandrel.

"Quality ranks high with our organization. In order to turn out good material and paint work, we know the materials we use must be the very best. We have had several sad experiences in using untried and unproven brands of masking tape, and have found that "SCOTCH" Brand Masking Tape answers our need for a uniform quality tape. We find we save valuable time using "SCOTCH" Brand, and to me that is the important thing. It is the dependable tape for every job.

"We've found it doesn't pay to do the other fellow's experimenting. 3M's been around a long time, they make top quality products. That's why we use them."

Yes, that's *real* experience talking . . . experience you can profit from! Stock and use the complete 3M Refinishing line—but be sure to specify by brand name every time you order!



Made in U.S.A. by Minnesota Mining & Mfg. Co., St. Paul 6, Minn.—also makers of "Scotch" Brand Pressure-Sensitive Tapes, "Scotch" Sound Recording Tape, "Underseal" Rubberized Coating, "Scotchlite" Reflective Sheeting, "Safety-Walk" Non-slip Surfacing, "3M" Abrasives, "3M" Adhesives. General Export: 122 E. 42nd St., New York 17, N.Y. In Canada: London, Ont., Can.



...Another Important Exclusive Way

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ALL PURPOSE

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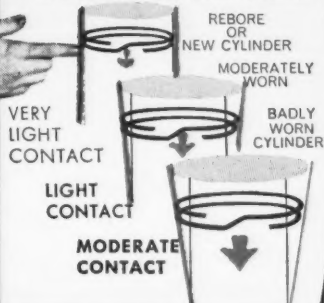
One Ring Does All 3!

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All jobs look alike to Ramco Spiro-Seal! This Chrome Plated or Steel ring adjusts *automatically* to cylinder conditions. Nothing is left to chance! It's never a question of whether the pressure is too severe or not enough! It's always right! That means more net profit for you! And because of the "balance spring" action of Spiro-Seal, no inner-ring contact is required on the steel or chrome rings. That means you get quicker seating because the initial seating is performed by the full fledged cast-iron oil ring. For more profits, All-Ways...your best call...is for Ramco 10-Up...see your Ramco Jobber today.

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Quickest Seating
RAMCO Piston Rings

available with Exclusive No Gap Spiro-Seal in both regular and chrome sets.

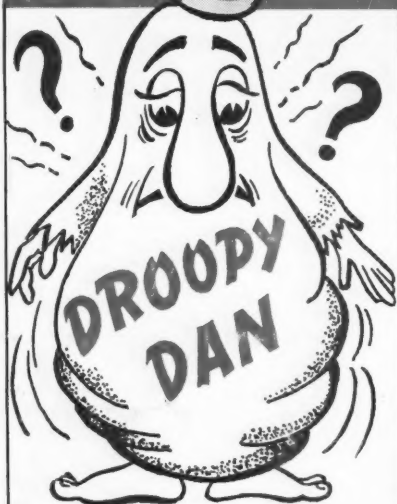
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